ASIATIC RESEARCHES;

Sirfojee Rajah OR, 1829

TRANSACTIONS

OF THE

SOCIETY INSTITUTED IN BENGAL,

For inquiring into the

History and Antiquities,

THE

ARTS, SCIENCES, AND LITERATURE,

OF

ASIA.

VOLUME THE EIGHTH.

PRINTED VERBATIM FROM THE CALCUTTA EDITION.

LONDON:

RINTED FOR VERNOR, HOOD, AND SHARPE; CUTHELL AND MARTIN; J. WALKER; LACKINGTON, ALLEN, AND CO.; OTRIDGE AND SON; LONGMAN, HURST, REES, AND ORME; R. FAULDER; SCATCHERD AND LETTERMAN; R. LEA; J. MAWMAN; J. ASPERNE; BLACK, PARRY, AND KINGSBURY; AND E. LLOYD;

At the Union Printing-Office, St. John's Square, by W. Wilson.

1808.

CONTENTS.

PAGE.

I. Observations respecting the remarkable effects of *Sol-Lunar* Influence in the Fevers of *India:* with the scheme of an Astronomical Ephemeris for the purposes of Medicine and Meteorology, ... 1

II. Extract from a Journal, during the late Campaign in *Egypt*, ... 35

III. Of the origin of the *Hindu* Religion, ... 44

IV. Extract from the تهذيب المنطق, or "Essence of Logic," proposed as a small Supplement to *Arabic* and *Persian* Grammar, and with a view to elucidate certain points connected with Oriental literature, ... 89

V. An Account of the Measurement of an Arc on the meridian on the Coast of *Coromandel*, and the length of a degree deduced therefrom in the latitude 12° 32′, ... 137

VI. On the *Hindu* Systems of Astronomy, and their connection with History in ancient and modern times, 195

VII. An Essay on the Sacred Isles in the West, with other Essays, connected with that Work, ... 245

VIII. On the *Védas*, or Sacred Writings of the *Hindus*,.... 377

IX. A Botanical and Economical Account of *Bassia Butyracea*, or East *India* Butter Tree, ... 499

X. Description of a species of Ox, named *Gayál*, ... 511

APPENDIX.

Introductory Remarks, intended to have accompanied Captain MAHONY'S Paper on *Ceylon*, and the doctrines of BUDDHA, published in the seventh volume of the *Asiatic Researches*, but inadvertently omitted in publishing that Volume, ... 529

TRANSACTIONS

OF THE

ASIATIC SOCIETY.

I.

OBSERVATIONS *respecting the remarkable Effects of* SOL-LUNAR INFLUENCE *in the* FEVERS *of* INDIA; *with the Scheme of an* Astronomical Ephemeris *for the purposes of* Medicine *and* Meteorology.

BY FRANCIS BALFOUR, ESQ. M. D.*

WHILST the interesting and successful researches of the Asiatic Society are exciting the curiosity and expectation of the learned in every quarter of the world, it is natural for those who are prosecuting discoveries in medicine and meteorology to look towards *India,* for some information respecting the nature and peculiarities of the climate in which we live. Possessing, as we do, the peculiar advantages of a tropical situation, with a more extensive field, and greater conveniency for making observations than any *European* nation ever enjoyed before, it is an expecta-

* Mr. BALFOUR is the author of the Paper in the Second Volume of the Asiatic Researches, entitled a "Treatise on the introduction of the *Arabic* into the *Persian,* and language of "*Hindostan.*"

tion which they have reason to entertain, and which, on that account, and many other considerations, we ought, if possible, to gratify.

One of the most striking and interesting peculiarities of this climate is the wonderful connection that subsists between the paroxysms of fevers, and certain relative positions of the sun and moon; and as it is a peculiarity that leads to new ideas respecting the theory and treatment of the whole class of febrile diseases, and suggests *Desiderata* for meteorological research; and therefore presents to the physician and philosopher, one of the most important phenomena in nature, I have chosen it for the subject of this paper.

I. *Of the* Number *and* Importance *of the* Diseases *that belong to the* Class *of* Fevers.

As the terms *fevers, febrile diseases*, or *class of fevers*, cannot convey to those who have not professionally or regularly applied themselves to the study of medicine, any just or adequate idea of the great extent and magnitude of this subject, I have thought it expedient to take this occasion to observe, for their information, that the *class of fevers* or *febrile diseases* comprehends, not only the disorders that always receive the appellation of fevers, but a very great number of *others* that are never distinguished by this name, although the *fever* which accompanies them, constitutes the very *essence* of the disease. Diseases of this description, of which many are far more destructive to the human race than those expressly called fevers, are most of them included in the following catalogue.

The plague, putrid sore-throats, epidemic catarrhs, dysenteries, pleurisies, peripneumonies, cho-

lics, cholera morbus, acute liver, the small-pox, measles, erysipelas, elephantiasis, rheumatism, gout, tooth-achs, ophthalmias, megrims, obstructions of the liver and spleen, diarrhœas, consumptions, spitting of blood, and hœmorrhoids; many species of hypochondriasis, insanity, epilepsy, tetanus and asthma; the state of teething in children, all local inflammations, external and internal, accompanied with fever of any kind, and all sores and ulcers, especially of the legs in warm climates. In short, all diseases attended with periodical exacerbations of fever, however obscure, &c. &c.

With whatever success, therefore, I may have acquitted myself in my *researches respecting the class of fevers*, it will appear from this explanation, that the object, at least, cannot, with truth, be represented as unimportant and useless. It cannot be unimportant and useless to investigate the nature of a class of diseases, by which the whole of the human race is sorely afflicted; and ultimately three-fourths of mankind are carried to the grave.

II. *Of the effects of* Sol-Lunar Influence *in* Fevers, *denominated* Continued, Remitting, *and* Intermitting.

A collection of all the observations I have made on this subject would be much too voluminous for a place amongst the researches of the Society. For my present object, it will be sufficient to state, as briefly as possible, the general conclusions that I have been led to draw from a view of the whole; and they are those that follow.

1*st*. *Of the* Paroxysms *of* Fevers.

In *Bengal* there is no room to doubt that the human frame is affected by the influence connect-

ed with the relative situations of the sun and moon. In certain states of health and vigour, this influence has not power to shew itself by any obvious effects; and in such cases its existence is often not acknowledged. But in certain states of debility and disease it is able to manifest itself by exciting *febrile paroxysms:* and the propensity or aptitude of the constitution, to be affected with febrile paroxysms in such cases, may be denominated the *paroxysmal disposition.*

From the great variety that appears in the violence and repetition of paroxysms, in different cases, at the same juncture of time, when the exciting power must act equally on all, it must be inferred, that the paroxysmal disposition exists in different cases in various degrees of *propensity.*

It appears also, from the history of fevers, that there is a disposition in all of them, which gradually increases and advances to a state in which it becomes *ripe,* or prepared for that remarkable change which terminates in a solution of the fever; and is denominated a *crisis.* This tendency in fevers may be called the *critical disposition;* which distinguishes itself in different cases, and at different times by various degrees of *maturity.*

The constitutions that prevail in different kinds of fever discover obvious peculiarities with respect to the progress and *maturation* of the critical disposition. But that which is most important, and most material for the object of the present explanation, is a peculiarity that shews itself in the critical disposition of the common *typhus.* In cases of this fever, which is that which prevails in crowded cities, and in jails, ships, and hospitals, in all countries at all seasons, and is by far the most com-

mon, it is well established by experience, that the fever being once commenced, the paroxysms are very rarely disposed to cease in less than four days, and seldom so soon; and are not in general inclined to continue more than twenty-one.

The laws that regulate the progress and *maturation of the critical disposition*, in that constitution which prevails in *remitting and intermitting fevers*, which are generally attended with large secretions of bile, and are the endemic fevers of warm climates, have not been as yet ascertained by any precise rules respecting their duration. But it appears to me that, whenever there are free discharges of bile, there is always a greater tendency towards a crisis or solution of the fever, than when there appears but little or none, which is generally the case during the height of the *typhus*; and until some approach towards a crisis either perfect or imperfect has taken place: and the peculiar paroxysmal, as well as the critical disposition in the typhus, and in remitting and intermitting fevers, giving occasion to forms of different type and duration, may perhaps be connected with different states of the liver peculiar to each.

2d. *Of the* Types *of* Fevers.

Of Perfect Types.

Febrile paroxysms universally discover a tendency to appear and disappear in coincidence with those positions of the sun and moon that regulate the rising and falling of the tides.

The diurnal and nocturnal increase of sol-lunar power acting on constitutions, in which the propensity of the paroxysmal disposition is complete

and perfect, produces paroxysms every twelve hours in coincidence with the periods of the tides*; and constitutes *types*, which, on account of this regular coincidence, I have denominated *perfect*.

Of Imperfect Types.

The diurnal and nocturnal increase of sol-lunar power acting on constitutions in which the propensity to paroxysm is incomplete or imperfect, has power only to produce paroxysms in coincidence with every second, third, or fourth period of the tides, or others more remote; constituting *types*, which, on account of this irregular coincidence, I have called *imperfect*.

By the discovery of this simple and universal principle, we are able to unfold the whole mystery of types; and to explain all the diversities that have appeared under the distinctions of *continued*, *remitting*, and *intermitting* fevers. Fevers, hitherto denominated continued fevers, and supposed from the obscurity of their remissions to have none, are all of them to be considered as nothing else than fevers of a perfect type, in which two daily remissions may always be discovered, by attending to the remissions of sol-lunar influence, especially those of the morning; and fevers having paroxysms every twelve hours with obvious remissions, whether denominated continued or remitting fevers, are also evidently fevers of a perfect type.

* I express myself in this manner for the sake of brevity, meaning that the paroxysms occur in coincidence with the positions of the sun and moon that occasion the tides. The tides, it is well known, do not coincide with those exactly, but follow them a considerable time after.

Fevers in which the paroxysms do not succeed each other in twelve hours (and which have been hitherto denominated intermitting fevers when the remissions were complete, and remitting fevers when they were not) all belong to the class of imperfect types.

For the purpose of illustrating these explanations respecting types, I have constructed Table I.

3d. *Of the* DURATIONS *and* CRISES *of* FEVERS.

Of the durations and crises of Fevers of a Perfect Type.

Febrile paroxysms shew themselves more frequently during the period of the spring tides than at any other time, and as these advance become more violent and obstinate; and on the other hand, tend no less invariably to subside and terminate during the neaps.

By the concurrence of the remarkable and sudden *remission* in the power of sol-lunar influence at the commencement of the neaps with *critical dispositions in a state of perfect maturity*, all the different perfect types, produced in the manner I have explained, are brought to a final termination or *perfect crisis;* and are thus limited to fevers of *different durations.*

The operation of this law is explained in Table II, which exhibiting examples of the different durations of perfect types, with the manner in which they are formed, unfolds at one glance, the dark and once impenetrable secret of *crisis;* and accounts for all the diversities that may appear in their duration at different times.

An application of these principles enables us to explain in a similar and consistent manner the formation of *crises* that have been called *imperfect*. It is obvious that whenever the remission in the power of sol-lunar influence at the commencement of the neaps acting equally on all, produces in some cases *perfect crises*, and in others *crises* that are *imperfect*, that the latter must be referred to the immature and unprepared state of the critical disposition to concur completely in that event. And although perfect crises, owing to the cause which I now mention, do not always take place at such junctures, *yet no fever*, as far as my experience goes, ever passes the commencement of the neaps without some evident abatement or remission in the degree of its violence; or without exhibiting some evident approaches towards a solution or crisis; and they are *approaches* such as these, in which the critical disposition concurs only partially and incompletely with the remission of sol-lunar power, that constitute those changes in the state of fevers that have been hitherto denominated *imperfect crises*.

This explanation respecting the nature of imperfect crisis being premised, I have now to observe, that although Table II. exhibits only such forms of perfect types as terminate by a final and perfect crisis on the commencement of the neaps, it will now be well understood, that all fevers do not terminate finally and completely at this juncture; but that in many cases, the *crises* being *imperfect*, the paroxysms continue to return for some time in a more moderate degree, and generally postponing with the periods of the tides, subside, and at last disappear gradually and imperceptibly. The *imperfect crises of perfect types*, such as these which I have just described, being less distinctly marked

in their form, I have not attempted to represent them by any diagram.

Of the Durations and Crises of Fevers of an Imperfect Type.

For the same reason I have not attempted to reduce, to a synopsis or table, the *durations* and *crises* of imperfect types; and because I am perfectly satisfied that the same principles are equally applicable to explain the whole.

III. *The preceding* THEORY *extended to the whole Class of* FEBRILE DISEASES.

In prosecuting this analysis, we have obtained the knowledge of three very important principles in the pathology of fevers.

1*st*. That the paroxysms of fevers are produced by the action of *sol-lunar influence.*

2*dly*. That there is, however, a certain state of the human constitution, denominated the *paroxysmal disposition*, required to concur with the exacerbations of sol-lunar power in exciting and reiterating paroxysms, in such a manner as to form fevers.

3*dly*. That in the course of the disease there takes place in the constitution a certain state, denominated the *critical disposition*, which tending gradually to *maturity*, at length concurs with certain remissions of sol-lunar power in producing a crisis; by which salutary change the tendency to paroxysm is diminished or removed, so as to bring fevers to an end after certain intervals of time.

In my explanation of this theory, I have hitherto confined myself as much as possible to examples of the typhus, and of the endemic, remitting, and intermitting bilious fevers of this country; particularly those without local affection; and such therefore as are strictly denominated fevers. I now mean to extend it to every disease that is distinguished by febrile paroxysms, returning in coincidence with the periods of increased sol-lunar power, whether with or without local affection; and as there is no disease of the numerous list detailed at the beginning of this paper, excepting the plague*, catarrhal fevers, and one or two more, in which I have not myself distinctly observed the coincidence of concomitant fever with the exacerbations of sol-lunar influence; the whole of that catalogue, and many others, though not generally distinguished by the appellation of fevers, are to be considered as nothing more than so many different modifications of fever; in which the peculiar constitution of each is variously affected by the action of sol-lunar power, and in such a manner as to produce the great variety of febrile forms that daily appear.

The exacerbation and remission of febrile paroxysm in coincidence with the rising and falling of sol-lunar power constitutes the general and distinguishing character of fever or febrile disease;

---

* In several of the cases of the plague, recorded by Dr. PATRICK RUSSEL, the febrile paroxysms returned obviously every twelve hours in coincidence with the periods of the tides; and his predecessor and relation, the author of the Natural History of *Aleppo*, says positively "that the generality of fevers there, and "indeed almost all acute diseases, are subject to exacerbations "once or *twice* in twenty-four hours." *Vide Doctor* MILLAR'S *Observations on the prevailing Diseases of Great Britain, page* 203.

and although the lowest degree of this power acting on paroxysmal dispositions in a high state of propensity, may happen to produce febrile paroxysms at an unusual period, such instances, though apparently exceptions, are no argument against the truth or principles of the general law: but are consistent with it in every respect.

Combining therefore the operation of the principles we have obtained from this analysis, we are enabled to construct a *theorem*, which serves to explain in a new, but satisfactory manner, the whole *class* of febrile diseases.

THEOREM.

The fluctuating force of sol-lunar influence coinciding and co-operating in all its various stages and degrees, with the various modifications of the paroxysmal disposition, excites febrile paroxysms to attack on all the days of the neaps and springs, and supports and reiterates them, according to various types, until the commencement of different neaps; at which junctures the maturity of the critical disposition happening to concur with the periodical decline of sol-lunar influence, these paroxysms then subside and come to a termination or crisis: and thus form different successions of paroxysms constituting fevers of various length or duration.

It has been observed, respecting the various forms of durations, that some are apt to occur more frequently than others. To search for a solution of this question amidst the chaos of the incorrect and mutilated history that has been accumulated on the subject of fevers, would be unsatisfactory and useless. It will be far more profitable to

observe their course with attention in future, when the laws that directs it are explained and understood, and I have no doubt that any physician who will carefully attend to the diurnal and nocturnal returns of the tides, and will constantly hold before him the prevailing tendency of fevers to appear at the commencement, and during the period of the springs; and on the other hand their prevailing tendency to subside and terminate at the commencement and during the period of the neaps; together with the observations that have been made respecting the propensity of the paroxysmal, and the maturity of the critical disposition, will soon obtain more information respecting the phenomena of fevers; and be able to form more just and certain judgments and prognostics respecting every event, than if he were to study the history of medicine, as it is now written, for a thousand years. In short there is no revolution or change in the course of fevers that may not be explained by these general principles, in a manner that is consistent with the laws of the human constitution, and those of the great system of revolving bodies, which unite together in producing them.

Before I conclude this article, I must also recommend to every practitioner who wishes to emancipate himself from the beaten track, to attend carefully to the appearance of the urine; for I can assure them, from the experience of many years attentive observation, that there is to be observed, in the fevers of India, a constant and regular fluctuation in the colour and consistence of the urine in fevers. That is to say, regular diurnal and septenary changes in its character, coincident and correspondent with the exacerbations and remissions of sol-lunar influence.

The periodical fluctuation in the state and appearance of eruptions, sores, and ulcers in this country, being always connected with the periodical changes of a concomitant fever, an attention to these will be no less instructive than to those of the urine; and if the periodical changes of each were regularly and accurately delineated and expressed in colours with a pencil, by a judicious and careful observer, they would form a record in medicine and surgery of a new kind; which I have no doubt, would place the whole of this doctrine upon the basis of ocular demonstration, and afford to the most incredulous and inattentive perfect conviction of its truth.

IV. *Deviations from the prevailing tendencies of* FEVERS *during the periods of the* SPRINGS *and* NEAPS.

Although the general theorem, which I have advanced in the preceding pages, describe the prevailing tendencies of fevers during the springs and neaps, it is necessary to observe, that those tendencies are liable to frequent and remarkable deviations from the various stages that the moon may happen to occupy on her own orbit; by which her distance from the earth may be considerably increased or diminished; and consequently her power.

From observations lately made at the General Hospital at *Calcutta* by Mr. JAMES HOWISON, Doctor JOHN CAMPBELL, and Doctor JOHN FULLARTON, it appeared that the moon during the period of her greatest horizontal parallaxes had sufficient power to suspend, in a very conspicuous manner, the common tendency of the neaps to produce a remission of fever. And when the greatest horizontal parallaxes happen to coincide with the power of sol-lunar influence during the springs, we may

reasonably infer that the power of exciting and supporting paroxysms must then be considerably raised above its usual force.

Besides the deviations that may arise from this cause, it is also reasonable to suppose, that the state of febrile paroxysms must be occasionally affected by every other change or perturbation of the moon's influence; but these are less remarkable, and have not been as yet ascertained by accurate observation.

V. *Of the state of* FEVERS *in* India, *during the* EQUINOCTIAL PERIODS.

I am now come to take notice of the remarkable appearances observed in fevers about the vernal and autumnal equinoxes. On this subject I have received from others very little information; but I have not been inattentive myself to those periods; and can pronounce with confidence, although my observations have not been recorded with regularity, that fevers are apt to occur more frequently, and with greater violence about both of those periods, than during the intervals either of summer or winter.

From these observations I was induced many years ago to advance, that the power of sol-lunar influence was considerably greater during the equinoctial periods than during the intervals either before or after them. It has therefore lately afforded me considerable satisfaction to discover in DE LA LANDE's astronomy, that DE LA PLACE has determined, from a very large collection of observations made by DE LA LANDE himself, that the tides at *Brest*, about the time of the equinoxes,

rise at a medium two feet higher than at the time of the solstices*. This discovery is agreeable to the general law of attraction; and it is not to be supposed that the influence of the sun and moon under the tropics, acts with a force inferior to that which produces this difference in the height of the tides on the northern shores of *Europe*.

How far sol-lunar influence affects the fevers of the higher latitudes of the globe, is a question that does not come within the scope of this enquiry. The annexed table, however, extracted from Dr. CURRIE, of *Liverpool's* medical reports on the effects of the water, &c. page 230, points so strongly to this subject; and is so immediately connected with the present article, that I could not resist the temptation of giving it a place; conceiving that it may become a stronger inducement to observation than any admonition or exhortation that I could offer.

Dr. CURRIE's table was formed by him to shew the number of typhus fevers admitted into the *Liverpool* dispensary in the course of seventeen years: and the admissions in that space of time amounted to no less than 48,367.

The great majority of patients admitted in the months of the spring and autumn, which I have denominated the equinoctial periods, compared with those admitted in the months of summer and winter, which I have called the inter-equinoctial intervals, cannot fail to attract the notice of every observer.

---

* Astronomie par JEROME LE FRANCAIS LA LANDE, Edition Troisieme Revue et Augmentée, Tome III, page 525.

Without attending to fractions, we obtain from the facts established in this record, the following statement of admissions.

For the mean of the equinoctial period, . . 12,980
For the mean of the inter-equinoctial intervals, ... 11,232
For the common mean of those periods and intervals, ... 12,091
For the *rise* of the equinoctial mean, above the common mean, ... 889, say $850=\frac{1}{14}$
For the *fall* of the inter-equinoctial mean, below the common mean, . . 859, say $850=\frac{1}{14}$

Those facts, expressed in other terms, amount to these;

1*st*. That whilst the temperature of the season in the spring was passing from cold to hot the number of typhus fevers *rose* about $\frac{1}{14}$ above the common standard.

2*dly*. That whilst the temperature of the season in the autumn was passing from hot to cold, the number of typhus fevers *rose* in like manner about $\frac{1}{14}$ above the common standard.

3*dly*. That during the months of summer, when the heat of the season is greatest, the number of typhus fevers *fell* beneath the common standard about $\frac{1}{14}$;—and

4*thly*. That during the months of winter, when the heat of the season is least, the number of typhus fevers *fell* in like manner below the common standard in the same proportion, about $\frac{1}{14}$.

That the number of fevers should increase equally during the transition from cold to hot, as from hot to cold, and under the two opposite extremes of permanent heat and permanent cold, should equally diminish, are facts that are no doubt curious. At present, however, I mean only to suggest, that, if the theory of sol-lunar influence should ever be admitted in *Europe*, those phenomena, apparently so very repugnant, may all be reconciled and referred to one common cause, without involving the smallest inconsistency or contradiction.

VI. *Testimonies respecting the effects of* SOL-LUNAR INFLUENCE *in the* FEVERS *of* INDIA.

As it is impossible on this occasion to detail at full length the various observations and arguments from which I have been led to adopt this theory, it is necessary to state, that it has not been taken up rashly; that it is now submitted to this Society after the observation and reflection of thirty years; and that it is confirmed, in its most essential points, by the concurring observations of a large body of respectable gentlemen, whose names are contained in the following list. And it is flattering to me to add, that Lord TEIGNMOUTH, who was then Governor General, conceiving that the correspondence of those gentlemen on this subject promised to be publicly useful, ordered my treatise, containing their letters, to be printed and circulated at the expense of government.

Besides establishing unquestionable evidence of the general influence of this law in *Bengal*, these testimonies serve also to correct a very erroneous notion advanced respecting sol-lunar influence by Doctor LIND, by shewing that its effects in fevers

are no less manifest at the distance of many hundred miles from the highest reach of the tides, than at *Calcutta*, and other parts of *Bengal*, to which the tides flow daily. The distances marked in the column, appropriated to that purpose, are very nearly the number of miles in a direct line between the places where the observations were made, and the utmost reach of the tides at the springs. Doctor LIND's theory made me anxious to ascertain these distances with precision; and the Military Surveyor General was so obliging as to direct it to be done at his office.

CORRESPONDENTS.	Resident in India. Years	Stations.	Distance from high-water. Miles.
Lieutenant L. Hook,	10	Ramnagur,	365
Lieutenant A. Black,	13	Sylhet,	150
Captain R. Ogle,	24	Cooch-Behar,	270
Major James Pringle,	24	Benares,	365
Lieutenant Robert Cumming,	14	Midnapore,	58
Lieutenant S. Sinclair,	14	Ditto,	ditto
Lieutenant T. Hamilton,	14	Ditto,	ditto
Captain S. Knowles,	24		
Mr. William Chambers,		Calcutta,	
Major Robert Bruce,	24	Cooch-Behar,	270
Mr. James Ross, Assistant Surgeon,	11	Dinagepore,	160
Mr. Adam Burt, Assistant Surgeon,	13		
J. G. Henderson, Surgeon,	14		
Lieutenant Fredk. Marsden,	14	Bencoolen,	
Mr. J. J. Vaumorel, Assistant Surgeon,	3		
Mr. H. Mair, Head Surgeon,	23		
Captain Bradley,	24	Chunar,	370
Mr. Ch. Desrough, Assistant Surgeon,	4		
Captain George Wood,	23	Ramghur,	240
Mr. James Wilson, Surgeon,	13	Moorshedabad,	53
Colonel George Deare,	25	Calcutta,	
Captain Richard Grueber,	23	Rohilcund,	660

CORRESPONDENTS.	Resident in India. Years	Stations.	Distance from high-water. Miles.
Mr. John Gilchrist, Assistant Surgeon,	11		
Major S. Farmer,	25	Midnapore,	58
Captain J. Rattray,	24	Jellasore,	
Mr. Chas. Todd, Assistant Surgeon,	11	Bauleah,	70
Mr. Chas. Campbell, Assistant Surgeon,	4	Fort Marlbrough,	
Mr. P. Cochrane, Surgeon,	14		
Mr. W. Baillie, Assistant Surgeon,	13		
Lieutenant James Price,	12	Chunar,	370
Lieutenant John Towers,	12	Cawnpore,	530
Lieutenant Robert Dee,	11	Chitterpore,	300
Lieutenant Thomas Broughan,	10	Juanpore,	400
Mr. W. Davidson, Assistant Surgeon,	10	Sylhet,	150
Mr. John Corse,	11	Tipperah,	50
Doctor J. Campbell, Assistant,	9	Calcutta,	
Doctor Alexander Campbell, Surgeon,	15	Ditto,	
Mr. John Miller,	30	Ditto,	
Mr. W. F. Gardner, Surgeon,	17		
Mr. W. Boyd, Surgeon,	10	Buxar,	348
Mr. W. Allison, Assistant Surgeon,	3		
Major Dunn,	25	Berhampore,	47
Captain N. Macleod,	25	Cooch-Behar,	270
Mr. T. Henckell,	24	Jessore,	
Mr. James McDougal, Assistant Surgeon,	3	Dinapore,	315
Mr. John Hannah,		Calcutta,	
Dr. Robert Bruce, Surgeon,	16	Lucknow,	530
Mr. W. Coote, Assistant Surgeon,	12		
Mr. George Davidson, Surgeon,	12	Dacca,	
Doctor N. Fontana, Assistant Surgeon,	11	Calcutta,	
Mr. James Laird, Surgeon,	17	Dacca,	
Mr. Robert Collins, Surgeon,	13	Rungpore,	
Mr. P. Ewart, Assistant Surgeon,	12		
Captain Dennis,	25	Ramgur,	
Major A. Kydd,		Pettebeat,	660
Doctor P. Wade, Assistant Surgeon,	12	Assam,	
Mr. P. Touchet,	14		
Mr. W. Dick, Assistant Surgeon,	13	Calcutta,	

CORRESPONDENTS.	Resident in India. Years	Stations.	Distance from high-water. Miles.
Doctor G. Boyd, Head Surgeon,	12		
Doctor James Hare, Assistant Surgeon, ...	6	Calcutta, ...	
Major Dickson, ...	25	Cooch-Behar, ..	270

The information sent to me by those gentlemen, was all of it received in the space of a few months, in consequence of a circular letter, requesting observations on this subject, and on any side of the question, from those who might be inclined to give it. Several of those gentlemen I had never seen in my life; and with many I had the honor only of a slight acquaintance. Had I continued longer to collect testimonies, I am confident, that notwithstanding the diffidence and reluctance with which people commit themselves upon a topic of this kind, that I might have obtained in *direct* proof of sol-lunar influence, a much larger body of evidence than is to be found in any single record in *direct* proof of the tides of the sea.

The order for printing and circulating my treatise on sol-lunar influence, along with my correspondence on this subject, at the expense of government, is contained in the following letter.

To Doctor FRANCIS BALFOUR.

PUB. DEPT.

SIR,

The Governor General being always disposed to encourage the servants of the Company, in instances of publications that promote science, or are calculated to do a general service, directs

me to inform you, that the expense of your publication, entitled "a Treatise on Sol-lunar Influence," will be defrayed by government.

You will therefore be pleased to circulate copies of this work to the different parts of the country where you think it will be useful; and likewise transmit twenty copies to this office, to be forwarded to the Honorable Court of Directors.

I am, SIR, &c.

(Signed) C. SHAKESPEAR, *Sub-Secretary.*

CALCUTTA, COUNCIL CHAMBER,
the 7th April, 1794.

To accumulate testimonies of the remarkable effects of sol-lunar influence in *India* is now almost superfluous. In the western parts of *India* it is no less generally acknowledged than in *Bengal:* and I shall conclude this article with an extract from a letter which I received some months ago, from a gentleman high in the medical line at *Bombay;* and no less so in the opinion of the public. His name however I forbear to publish, not having previously asked for his permission.

"BOMBAY, *6th May,* 1801.

"The influence of the moon on the human body, "has been observed in this part of *India* by every "medical practitioner. It is universally acknow-"ledged by the doctors of all colours, of all casts, "and of all countries. The people are taught to "believe it in their infancy; and as they grow up, "they acknowledge it from experience. I sup-"pose that in the northern latitudes this power of "the moon is far less sensible than in *India*; and "perhaps less so in *Bengal* than in our neighbour-"hood. We here universally think that the state

"of weakly and diseased bodies, is much influ-"enced by the motions of the moon. Many peo-"ple know the very day on which their intermit-"tents will make their appearance; and every full "and change increases the number of the patients "of every practitioner. It is no argument against "this influence, that diseases appear during every "day of the month. The human body is subject "to alterations from a thousand external circum-"stances, and from many affections of the mind. "These lay the foundation of disease at every pe-"riod; but they do not overthrow the evidence of "lunar influence: although they are apt to mis-"lead with regard to effects that depend on that "alone. That the human body is affected in a re-"markable manner by the changes of the moon, I "am perfectly convinced, although I cannot con-"stantly pretend to see the operation of the gene-"ral law; nor to account at all times for its per-"turbation; and agree in thinking that an attention "to the power of the moon is highly necessary to "the medical practitioner in *India* *."

VII. *Of Securing and Extending our knowledge of* SOL-LUNAR INFLUENCE.

As those discoveries regarding the effects of sol-lunar influence lead unavoidably to new ideas re-

* Having neglected to apply to the author of this letter for his permission to give his name to the public; and being very unwilling to deprive the doctrine of lunar influence of the support, which it cannot fail to derive from such an evidence, I will now venture to discover, that he is no other than Doctor HELENUS SCOTT, of *Bombay*. From the information of Doctor HUTTON, who resided many years as Surgeon at *Penang*; and of Mr. JAMES LUMSDAINE, Surgeon for a number of years at *Fort Marlbro'*; I have now, also, the satisfaction to know, that sol-lunar influence shews its effects in a very conspicuous manner in the prevailing diseases of those islands; and that an attention to its laws, is of great importance on conducting their cure.

specting the nature and cure of fevers, it has become an object of real importance: *first*, to secure the knowledge we have already obtained of this principle; that it may not succumb to any illiberal attempt to suppress or smother it, by representing it as insignificant and useless; or by ascribing to it, the wild and groundless delusions of astrology: *secondly*, to render the road to future observation and further discovery more easy and accessible, by removing the almost unsurmountable obstacles that present themselves, in the intricacy and labour of astronomical investigations: and *thirdly*, to render our knowledge of it so *precise* and well defined, that it may assume the form and attributes of real science, by furnishing precepts for the purpose of applying it to the improvement of useful arts.

1*st*. To place this theory on a firm and secure foundation, I shall follow the example of the learned ABBE´ MANN, in his observations on the flux and reflux of the atmosphere*: and shall assume it as a principle requiring no further demonstration than what it has already received from astronomy, that the influence of that attraction, which regulates the motions of the planetary system, is continually and without ceasing exerting itself, in a proportionable degree, on every particle of this globe; and that it cannot be otherwise.

The existence of sol-lunar influence being demonstated by astronomy, its action on the human frame is no longer a matter of doubt; and the only question that we have to consider is, not whether that power does actually exist, but whe-

* The Philosophical Magazine, Vol. V, page 105.

ther it manifests itself by the signs of any obvious effect or change in the human constitution.

With respect to this important question, I shall content myself with stating in a very few words, that all the observations I have made myself, together with those that have been communicated by other gentlemen, concur to prove, not merely that sol-lunar influence manifests itself by evident effects upon the human constitution, but that the *attacks*, *exacerbations*, *remissions*, *postponings*, and *relapses*, of the paroxysms of fevers, which comprehend the whole of the evidence that is necessary to constitute a complete demonstration, are, in a wonderful manner, coincident in time, and correspondent in degree, with the periodical changes that take place in the power of sol-lunar attraction. To reject, therefore, those accumulated proofs of its actual operation and efficiency, is to violate the principles and rules, by which we infer the existence of a connection or cause, in every question of philosophy, or common occurrence of life.

The proof of regular changes in the atmosphere corresponding with the revolutions of lunar attraction, being now established by the discovery of a regular *diurnal*, and a *septenary* flux and reflux in the mercury of the barometer, coincident with the diurnal and septenary revolutions of the same power, the theory of sol-lunar influence in fevers receives from this event all the support that can be derived from a fair *analogy*: and it may be inferred with reason, that changes such as these in the element in which we breathe and move, are not likely to take place without corresponding perturbations in the human frame.

The existence of a *diurnal* flux and reflux in the mercury of the barometer, is now sufficiently established by the observations of Father BOUDIER,* at *Chandernagore*; of Mr. TRAIL, Mr. FARQUHAR, and Colonel PEIRCE, at *Calcutta*; and those which appear in my treatise, on the barometer, inserted in the fourth volume of the *Asiatic* Researches; and on the Coast of *Coromandel*, by the observations of Doctor ROXBURGH †. On the other side of the globe, they have been observed in *South America* ‡, and the *West Indies* ‖; and also at different places in *Europe* §.

The proofs of a *septenary flux* and *reflux*, in the mercury of the barometer, is confirmed by the observations of Mr. TOALDO, Father COTTE, and others; but still more pointedly by those lately made in *England* by Mr. HOWARD, to be found in a paper read before the *Askesian* Society in *London*, and published in the seventh volume of the Philosophical Magazine.

Such is the support and security which the doctrine of sol-lunar influence in fevers derives from evidence *direct* and *analogical*. From the sublime discoveries of LAVOISIER respecting the composition of the atmosphere it receives protection of another kind. In the present imperfect state of our knowledge regarding the component parts of at-

---

* Traité de Meteorologie, par LE P. COTTE, page 343.

† Vide the Transactions of the Royal Society, Vol. ——

‡ Traité de Meteorologie, par LE P. COTTE, page 399.

‖ Doctor MOSELEY's Treatise on the Diseases of the West Indies, and LE P. COTTE.

§ At *Berlin*, by M. CHANGEUX, *vide* Traité de Meteorologie, par LE P. COTTE, page 618, at *Padua*; by Mr. TOALDO and his Nephew, *vide* Traité de Meteorologie, par LE P. COTTE, page 616, &c. &c.

mospheric air, and the mode of their combination, who will presume to limit or define its connection with sol-lunar influence? Who will be so hardy and so regardless of his own reputation as to pronounce, without proof, that this influence has *no* power to produce any change whatever in the nature of this compounded fluid; in the smallest degree connected with useful knowledge; or necessary in any respect to be known?

2dly. For the purpose of removing the obstacles that arise from the intricacy and labour of astronomical investigations, in which those who are employed in the study and practice of medicine can have no leisure to engage, it will be sufficient to present a plain and simple idea of this power, with the common changes to which it is liable, abstracted from all the complicated circumstances by which those changes are produced: The consideration of which, though indispensibly necessary for the nicer purposes of astronomy, are by no means required for those of medicine and meteorology.

It was determined by DE LA PLACE*, in 1790, that the force of the moon to excite those perturbations that manifest themselves on the surface of our globe, by the elevation of the tides, is three, and that of the sun one. Assuming this as a foundation, we have only to conceive that those two quantities of power, sometimes assisting and sometimes counteracting each other according to the varying positions in which they are placed, produce the corresponding changes that are observed

* Astronomie par JEROME LE FRANÇAIS LA LANDE, Tome III, Troisieme Edition Revue et Augmentée, additions et corrections, page 737.

in the paroxysms of fevers; remembering, at the same time, that those are occasionally subject to certain perturbations of inferior consequence, from the attractions of the planets. To conceive this, is all that is required.

3dly. To render our knowledge of this principle sufficiently perfect, by giving it all the advantages of *numerical precision*, without which no physical principle can ever acquire the form and efficiency of science, it is necessary that all the various degrees of increase or decrease that sol-lunar influence is liable to undergo at various hours of the day and night, should be accurately ascertained, and *expressed in numbers*.

It is to attain this end that I am now led to propose the scheme of an *astronomical Ephemeris* for the purposes of medicine and meteorology, containing a column for the *horal variations* of sol-lunar power both day and night, ascertained and expressed with all the precision that can be obtained.

The perturbing force of the moon being found by De La Place to be three, and that of the sun one; and four, therefore, being the whole of the perturbing power with which they can act upon this globe, we shall obtain by dividing this sum into forty parts or degrees, a scale sufficiently extensive and minute for expressing all the different degrees that can possibly occur.

By means of this *Ephemeris*, every phenomenon that appears being instantly and easily compared with the existing corresponding degree of sol-lunar power, certain general truths will at length be obtained, respecting its agency and interference in

the different processes of nature, and operations of art. We shall ultimately discover where it assists, where it counteracts, and where it produces no effects at all; precepts and cautions will thence arise to direct our conduct: and thus assuming the real character and office of science, it will become an instrument of improvement and perfection in the useful occupations of life. In our native country the respectable tradesmen, who are employed in the important national concerns, of supplying our fleets destined for distant voyages and warm climates, with wholesome and durable provisions, are often unaccountably disappointed in the quality of the different articles which they provide. Perhaps they may discover that all the days of the month are not alike favourable for the important processes of brewing, and baking, and of preserving meat. And perhaps abroad, the manufacturers of indigo, sugar, saltpetre, and opium, may find out hereafter, that the success of their different operations are not altogether unconnected with certain periods of time.

To those who are proficient in astronomy it will readily occur, that the construction of an *Ephemeris*, such as that which is proposed, is not merely speculative or impracticable. It will occur to them that there is no hour or division of the column appropriated to the variations of sol-lunar power, for which the precise degree or quantum of its force is not either ascertained by astronomical theorems already demonstrated, or readily deducible from such demonstrations. On those gentlemen, whose studies have qualified them, and whose zeal may incline them, from a sense of its utility, to complete the construction of this instrument, I must for the present rest my hopes. My own imperfect knowledge of astronomy, and the precarious state of my health, render me at this time totally unequal to such an exertion.

CONCLUSION.

In concluding this paper, I hope it will not be deemed disrespectful, if to prevent future mistakes, I should take this opportunity of declaring explicitly my own sentiments respecting the *result* and *success* of these investigations.

"Having discovered *the laws of febrile paroxysms*, and having marked their course and "periods in a manner that was never explained or "done before, I conceive that I have been able to "unfold a history and theory of fevers entirely "new; consistent wlth itself in every part, and "with the other appearances of nature; perfectly "conformable to the laws discovered by the im-"mortal NEWTON; and capable of producing impor-"tant improvements in medicine and meteorology."

Should these pretensions prove groundless and visionary, having submitted them to this Society, I shall at least obtain the credit of having sought investigation. If they be fair and just, the harmless vanity of proclaiming them will not obliterate all their merit.

EXPLANATION OF THE TABLES.

Of all the phenomena that occur in the contemplation of animal nature, it will be readily acknowledged, that the *paroxysms of fevers* are the most interesting to mankind. The history of every age declares the dreadful desolations they have made in every country; and by far the greatest portion of the human race continues to be swept away by this terrible disease.

The cause, however, that produces these remarkable effects, and determines the *paroxysms of fevers* to appear in different cases in various order and succession, constituting fevers of *different types*; and that again which determines different types to come to an end after certain intervals of time, forming these into fevers of *different durations*, are questions which have hitherto defied the research of physicians; and cannot be explained, except by the laws of sol-lunar influence.

TABLE I.

Explains the Types of Fevers.

The different types that occur in fevers are formed by febrile paroxysms continuing to return in succession for a certain number of days, at an interval of twelve, twenty-four, and forty-eight hours; or some other larger multiple of twelve hours; and almost invariably in coincidence with the period of the tides. The types of fevers, therefore, are formed by the action of sol-lunar influence producing paroxysms in coincidence with the periods of the tides, at the intervals I have described: and differ from each other, only in so far as their paroxysms return in succession at intervals formed by different multiples of twelve hours.

To convey a general idea of this discovery, I have constructed Table I, observing that it applies to explain all the types that I have ever met with in India; and agrees perfectly with the types that are described by other authors. The first of these examples, from the perfect coincidence of its paroxysms with the period of the tides, I have called a *perfect type*; and all the others, from their imperfect coincidence with those periods, *imper-*

fect types. But as the paroxysms of the imperfect types, after the commencement of the neaps, are generally disposed to become less distinct in their form, and therefore not so easily reducible to the figure of a diagram, I have confined my representation of types to the period of the springs; when the paroxysms or fevers happen towards the middle of the day and night; and are most regular and distinct.

1*st*. *Days* are represented by the divisions of the horizontal lines of the table.

2*dly*. The paroxysms of fevers are represented by dots placed above and below these lines.

3*dly*. Single dots above the line represent single paroxysms happening towards the middle part of the day, and are pointed out by the letter *d* (for *diurnal)* placed at their beginning on the left.

4*thly*. Single dots *below* the line represent single paroxysms happening towards the middle part of the night, and are pointed out by the letter *n* (for *nocturnal)* placed at their beginning on the left.

5*thly*. Two dots in one division, the one *above*, the other *below* the line, denote a diurnal and nocturnal paroxysm on the same day.

6*thly*. The different successions of dots on the different horizontal lines of the table, proceeding from the beginning of the line on the left to its termination on the right, exhibit examples of various successions of paroxysms; constituting specimens of *different* febrile *types* that occur daily in the course of nature.

TABLE II.

Explains the Durations and Crises of Fevers.

Fevers of all the different types that are produced in the manner described in Table I. are limited to forms of *different durations*, by the remarkable remission which takes place in the power of sol-lunar influence on the commencement of the neaps; and which brings them at these junctures to a termination, or *crisis*, whenever the state of the body is sufficiently disposed to concur in that event. This is illustrated by the variations produced in the *duration of perfect types* as exhibited in this table; which will *also* serve, without any other diagram, to give an idea of the variations produced in a similar manner in the *durations of types that are imperfect*.

1*st*. *Days* are represented by the divisions of the horizontal lines of this table.

2*dly*. The paroxysms of fevers are represented by dots placed above and below these lines.

3*dly*. Single dots *above* the lines represent single paroxysms happening towards the middle part of the day, and are pointed out by the letter *d* (for *diurnal*) placed at their beginning on the left.

4*thly*. Single dots *below* the line represent single paroxysms happening towards the middle part of the night, and are pointed out by the letter *n* (for *nocturnal*) placed at their beginning on the left.

5*thly*. Two dots in one division, one *above* the line, the other *below*, denote a diurnal and nocturnal paroxysm on the same day.

6*thly*. The successions of dots on the different horizontal lines of the table, proceeding from the beginning of the line on the left to their termination on the right, represent the different successions of paroxysms that occur in fevers of a *perfect type*, (or what are commonly called con-

tinued fevers,) which ceasing on the commencement of the neaps, constitute *different durations of perfect types;* and those will serve also to give an idea of the variety that may be produced in a similar manner *in the duration of types that are imperfect;* commonly called remitting and intermitting fevers.

7thly. Although single paroxysms will appear from the disposal of the dots in this table to be confined to the neaps, and *double* paroxysms to the springs, it must however be understood, that this is not always rigidly or invariably true; and they are represented here in this manner, only to denote their general and prevailing tendency and course; which must always be liable to certain deviations, not only from uncommon perturbations in the state of sol-lunar influence itself; but also from the usual and regular action of this influence happening to exert itself upon extraordinary degrees of paroxysmal propensity.

8thly. The daily postponing of the paroxysms cannot be easily represented on a fixed or immoveable diagram of this kind. But the effects which it has of *shifting* their accessions from night to morning, about the middle of the neaps, is denoted by shifting the single dots, that represent the paroxysms at this time, from the nocturnal to the diurnal side of the line. The postponing of the paroxysms is a phenomenon that has been too little attended to in the history of fevers.

EXPLANATION OF TABLE III.

This is the second Table in Doctor CURRIE's Medical Reports on the effects of water, &c. arranged agreeably to the doctrine of sol-lunar influence.

In order to accommodate it to this idea, the column of the *January* and *February* admissions are removed from the left to the right-hand side of the Table; so as to bring all the three months of the winter interval together, and to preserve the natural order in which the admissions followed each other, the whole of these two columns is raised one step higher: so that the *January* and *February* admissions of 1781, are brought upon the same line with those of *December* 1780, and therefore follow them, in this Table, as they really occurred; and so also with all the rest.

By this arrangement the admissions of *January* and *February* 1780, are thrown out of their proper place at the top of their respective columns, but are inserted at the bottom; and thus fill up the vacancies that were occasioned by raising the columns in the manner described; and by this means the amount of these columns is preserved the same as in the original Table.

The elevation, however, of the *January* and *February* admissions above the lines in which they stood in the original Table, makes a small alteration in each of the annual amounts; but as that does not alter the sum *total*, nor affect, in the smallest degree, the present question, it is of no consequence.

TABLE I.

Illustrates the Formation of the different Types of Fevers, by the succession of their Paroxysms at various intervals, in coincidence with the Periods of the Tides.

PAROXYSMS.

	DAYS. 1	2	3	4	5	6	7
d	·	·	·	·	·	·	·
n	·	·	·	·	·	·	·
d	·		·		·		·
n	·	·	·	·	·	·	·
d	·		·		·		·
n	·		·		·		·
d	·	·	·	·	·	·	·
n							
d							
n	·	·	·	·	·	·	·
d	·		·		·		·
n		·		·		·	
d	·		·		·		·
n							
d							
n	·		·		·		·
d	·			·			·
n							
d							
n							
d							

Constituting

Type	In which the Interval between each Paroxysm is	
1. A Type formed by a Diurnal and Nocturnal Paroxysm returning every day	12 hours,	and called a *Perfect Type.*
2. A Type formed by a Diur. and Noct. Par. every 3d day, and a Noct. Par. the intermediate day	24 hours,	and called *Imperfect Types.*
3. A Type formed by a Diur. and Noct. Par. every 3d day, the intermediate day free	48 hours,	
4. A Type formed by a Diurnal Paroxysm only returning every day	24 hours,	
5. A Type formed by a Nocturnal Paroxysm only returning every day	24 hours,	
6. A Type formed by a Diurnal and Nocturnal Paroxysm returning alternately every day	36 hours,	
7. A Type formed by a Diurnal Paroxysm returning every 3d day	48 hours,	
8. A Type formed by a Nocturnal Paroxysm returning every 3d day	48 hours,	
9. A Type formed by a Diurnal Paroxysm returning every 4th day	72 hours,	
&c. &c. &c.	&c.	

N. B.
The 1st is a Type common in Bengal, in the Typhus and beginning of Remitting Fevers.
The 2d is the Triple Tertian of Cleghorn, page 142.
The 3d is the spurious simple Tertian of Cleghorn, page 140.
The 4th is the common Quotidian every where.
The 5th is also a Quotidian which I have seen often in Bengal.
The 6th is the double Tertian of Cleghorn, page 141.
The 7th is the true simple Tertian of Cleghorn, page 140.
The 8th is another Tertian which I have seen often in Bengal.
The 9th is the common Quartan every where.
&c. &c. &c.

TABLE II.

Illustrates the Formation of the different Durations of Fevers by the Ceasing of their Paroxysms, in coincidence with the Commencement of the Neaps.

NEAPS.	SPRINGS.	NEAPS.	SPRINGS.				
Days. 1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7				
PAROXYSMS. d n …				Constituting Fevers of	1, 2, 3, 4, 5, 6, 7	Days Duration.	1–3: Least Common Durations.
				Constituting Fevers of	8, 9, 10, 11, 12, 13, 14	Days Duration.	4–21: Common Durations.
				Constituting Fevers of	15, 16, 17, 18, 19, 20, 21	Days Duration.	
				Constituting Fevers of	22, 23, 24, 25, 26, 27, 28	Days Duration.	22–28: Less Common Durations.

&c. &c.

TABLE III.

Demonstrates the PERIODICAL INCREASE and DECREASE of Fevers, in coincidence with the Equinoctial Periods and Interequinoctial Intervals, at *Liverpool in England.*

	The Vernal Equinoctial Period.			The Summer Interequinoctial Interval.			The Autumnal Equinoctial Period.			The Winter Interequinoctial Interval.			
Year.	*Mar.*	*April.*	*May.*	*June.*	*July.*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Jan.*	*Feb.*	*Total.*
1780	179	173	168	183	191	150	129	186	150	133	130	146	1917
1781	180	200	187	154	157	127	167	234	208	223	268	265	2113
1782	231	292	148	159	120	140	143	182	150	158	210	158	2256
1783	184	207	122	212	136	227	265	316	257	273	170	194	2817
1784	245	247	232	225	270	230	266	247	369	297	285	268	2992
1785	296	294	219	187	173	180	186	250	244	182	191	166	2764
1786	216	244	202	155	159	188	169	211	167	197	256	209	2265
1787	301	234	313	356	255	192	218	234	283	326	236	174	3177
1788	213	235	253	245	271	311	258	341	315	295	319	176	3167
1789	338	323	391	205	184	162	212	214	204	208	176	248	2936
1790	337	294	281	247	343	270	310	340	355	269	253	247	3470
1791	277	230	233	240	266	248	300	344	335	371	359	361	3344
1792	269	278	261	237	236	223	211	330	212	174	174	209	3151
1793	221	259	237	334	199	197	338	305	224	227	157	230	2925
1794	383	280	337	305	291	245	303	290	258	326	152	265	3405
1795	546	204	234	230	248	159	196	239	317	180	197	161	2970
1796	266	242	288	176	203	182	254	329	153	247	150	125	2698
	4682	4236	4206	3850	3852	3431	4025	4592	4201	4047	3683	3602	48367
	13144			11133			12818			11332			

II.

Extract *from a* Journal, *during the late Campaign in* Egypt.

BY CAPTAIN C. B. BURR.

ABOUT three miles to the westward of *Ginnie*, on the opposite side of the *Nile*, are situated the ruins of the ancient temple of Isis, now better known to the *Arabs* by the name of *Dendera;* being a corruption of *Tentyris*, which name was once borne by a city, of which the present temple is all that remains to denote its former splendour. That part which still exists, is surrounded by such heaps of rubbish, broken walls, and fragments of an *Arab* village, long since mouldered on its parent ruins, that little is perceptible in approaching, except five clumsy pillars forming part of a detached temple at some distance from the gate, with which it is in a right line, though now separated by a tank, filled by the inundation of the *Nile*. These columns are connected at their base by a stone wall in which there appear to have been eight, one at each corner, and one on either side of an entrance in front and rear of the building; which is about forty feet long, and possessing nothing worthy attention.

Beyond this, on the summit, and partly buried in the mound of rubbish, is a gateway much ruined on the side we approached from, but whose internal face is an object of peculiar admiration: its high state of preservation, the excellence of its sculpture, the simplicity of the style, the excellent execution of the figures, chiefly female, the hieroglyphics, and other ornamental parts, excited my surprise beyond what I had expected or thought

possible. It is probably rather an advantage to the temple, its being so surrounded with ruins as to be secreted till you approach sufficiently near, to receive a more perfect impression of its beauties. The rubbish, however, with which it is choaked up, confines the sight too much, and almost precludes the possibility of viewing the building with so good an effect as would arise from a greater choice of situation on the part of the spectator. Passing this gateway, the passage through which is also beautifully sculptured, we reached on the right hand a temple, surrounded by a gallery still entire, though almost buried; the whole ornamented with a variety of figures, surrounded with hieroglyphics, which doubtless explain the meaning of the various objects, some human, others of a less definite nature; the workmanship is in very great preservation, but the gallery so filled as to prevent our standing erect, though the body of this temple, into which we descended, was near thirty feet in height, covered with large slabs of stone. The entrance to this edifice is through a corridore supported on pillars almost buried in the ruins.

The grand temple, retired from the gateway about fifty yards, presents a front of one hundred and forty feet at the base; at least what is now the terreplain: and about sixty feet in height, the rest being invisible. This part is in the most perfect state; the fillet, torus, and almost every ornamental part, save what the bigotry of the *Arabs* has induced them to deface, being in excellent preservation. In the centre an entrance of nineteen feet leads into a peristyle divided by three rows of columns on either side of twenty-two and a half feet circumference, the front row connected to each other, at their bases, by a wall; which, from a part that has been cleared

away by the *Savans* to ascertain the elevation of the building, exceeds ten feet in height; from the top of this to the entablature of the columns, the space is left open; within are nine pillars to the right and left, (tallying in size and design with those in front,) that support the roof of the peristyle; which is ornamented in the most beautiful style, with a vast variety of figures, and representations of aquatic scenes. Many groupes of men and beasts are here represented; some perfectly of a terrestrial and familiar nature, others allegorical, amongst which is a fine figure of a bull butting at the new Moon. The dresses, the utensils, canoes, and many of the articles of the domestic œconomy of the ancient *Egyptians*, are herein represented in the most minute and pleasing manner; and the entire state of these figures, not only in shape, but colouring, conveys the most perfect idea of the habits of the times. A vast resemblance exists in the dresses with those at present worn in *India;* the *cholie* of the women, the *moond*, and many others, claiming a direct comparison. It has often struck me, and never more forcibly than in contemplating this temple and its sculptures, that there must have existed a much greater affinity in the customs of, and of course a more friendly intercourse amongst, the nations of the *East* formerly, when they pursued one system of worship, than since the introduction of *Christianity* and *Mahometanism;* which, by generating the most rooted and inveterate prejudices, have estranged the affections of mankind from those, whom no political difference could ever have affected. Of this we had an example even amongst the present inhabitants, who, regarding us as infidels, hate us, though we came as friends. Their dislike, however, they found it prudent to conceal; but they were not equally reserved with respect to the *Hindoos*, whom they often expressed their abhorrence of. This detestation of *Paganism* has in-

duced them, and doubtless been their sole motive for taking so much pains, to mutilate every figure of Isis, whose features are chisseled out; and many of the other figures, whose situations were not so elevated as to preserve them from the destructive contact of the *Arab*, have suffered almost perfect annihilation. All beyond it, however, are extremely perfect, and the whole ceiling, with one or two trifling exceptions, is entire; the capitals of the pillars are square, each face having had a representation of Isis's head on it, which, though so roughly handled, the turban has in no instance been destroyed, and the colouring of it, the bandeaus, and other decorations, are still in the greatest perfection. The stone of which the temple is built is a kind of freestone. As this would not receive either polish or paint, figures and hieroglyphics, with which every part of the peristyle, both internally and externally, is covered, have, in the interior, been plastered over with a fine cement, which has not only received a polish that has stood the test of ages, but has retained the brilliancy of the tints, particularly the blue, in a manner almost incredible. The mystic symbol of the winged Orb, of which reiterated representations decorate the ceiling of the central division of the peristyle, extending entirely across, bears the brightest hues; the same mysterious type adorns the entablature over the entrance, and the interior face of the same part of the gateway; the walls are covered with various sculptures, representing different parts of the history of Isis, one or two of the principal figures in each, being evidently the same, though each compartment into which the wall is divided, represents some separate event: but above the head of Isis, on each of the sides of each column, the two central front ones excepted, is the Deity's birth, without variation, all most elegantly executed, and exact counterparts of each

other. The interior length of this peristyle is one hundred and twenty-three feet, and sixty-four deep; the walls, at either end, near nine feet thick, decreasing externally as they ascend; the slabs of stone forming the roofs, are over the centre columns, twenty-five feet long, about six broad, and extremely thick.

Hence, by a large portal of elegant architecture, we entered the vestibule, the roof of which, considerably lower than that of the peristyle, is supported by six pillars, three on either side; their decorations much mutilated: the little that is visible, shews them to be fluted. This room is about half the length and breadth of the outer one, but being nearly filled with rubbish, we passed through another large door, into a room of the same length and height, but narrow enough to admit of large slabs reaching across without the intervention of pillars. Apertures are cut in the ceiling to admit air and light; and a passage or door, to the right and left, leads to other parts of the temple. Facing the door where we had entered, is another which led into a third room rather larger, and lighted in like manner from above; from these there are four doors leading to different parts of the building, to the right and left; and a portal facing that by which we had entered, which led us into a dark recess about thirty feet long, and twenty-five broad, whose roof in like manner consisted of transversal slabs. This probably was the great sanctuary, at the further extremity of which was a hole, through which we were enabled to descend into a vault, which, like the rest of the apartments, is nearly filled with earth. We, however, ascertained by our lights, that the floor above was formed of numerous small slabs of stone cemented to each other, and destitute of any other support than what they derived from the judicious manner in which they were united. Re-

turning hence, after visiting some rooms to our right, we went through a passage to the left that led to an apartment, where we in vain endeavored to maintain our ground against a host of bats, that finally obliged us to resume the course of this passage, which led by many steps of easy ascent, and many windings round their centre, to the summit of the temple; in approaching which it branches off to the right and left, the latter opening to a corridore, within which was a sanctuary, through the floor of which a perforation afforded light to a part of the temple which had not fallen under our observation. On the ceiling of this corridore, which is about twenty feet long, and half that breadth, is a curious female figure sculptured in relievo, represented in a *bent*, *extended* posture. The limbs, though disproportioned, are particularly beautiful: it is in the highest preservation, and worthy peculiar attention. By some steps projecting from the rear of the peristyle, we ascended to its summit, whence we commanded a fine view of the country, *Ginnie*, our camp, and the meanderings of the river; in our rear was a spacious burial ground; beyond an extensive desert. The intervening distance to the *Nile* was covered with rushes, and a thorny weed which gave the country a verdant appearance, and supplied the place of a luxuriant cultivation. The numerous villages, each shaded by its grove of dates, afforded a faint conception of an *Indian* scene, but the sterility of the neighbouring deserts that bounded the contracted landscape, forbade the indulgence of the pleasing comparison.

On the slabs are cut the names of several *French* travellers, who visited the place in 1779, and one of a democrat, dated the year eight.

Leaning over the temple, I discovered, on the

fillet, a *Greek* inscription in a state of great preservation, which I transcribed, and afterwards revised from below; unfortunately the information it conveys is trifling, and the obliteration of a part prevents its being of that utility I had at first anticipated.

Though we had ascended by the stairs, the mound of ruins on one side presented a more ready descent; and industriously profiting of the moment, we lost no time in completing our observations.

The *French* have been digging round, and within the temple, in different places, to ascertain its dimensions, and we were indebted for our access to many of the rooms, to the pains taken by them to discover their entrances; for which purpose they have removed a great deal of rubbish. The whole exterior of the temple is in perfect preservation, except the defacement which many of the figures within reach have suffered. On the south and west faces are some very elegant spouts for carrying off water, issuing from the mouths of couchant lions, decorated with rams-horns. The whole summit of the temple is disfigured by heaps of rubbish, and fragments of walls, as also the mounds which surround it, which probably owe their existence to a colonade, or some range of buildings with which it was enclosed, and which are now buried. To the southeast, at some hundred yards distance, is a ruined gateway boasting little beauty; it is situated at the foot of the eminence on which the temple is built, and being almost beyond the range of the present ruins, might have belonged to some other edifice. Some wretched *Arabs*, who employ themselves in digging amongst the ruins, brought us a few *Roman* coins, which we purchased.

Though we had been several hours in contem-

plating the beautiful monument before us, yet we had conceived but an inadequate idea of its varied perfections; so many objects occurred to arrest our attention, each discovering some peculiar attraction, that it would have afforded ample occupation during our remaining stay at *Ginnie*, to have bestowed on each the consideration they merited; a circumstance which greatly damped the anxiety I had before felt to visit *Thebes*, where such an infinity of matter presents itself to the inquisitive traveller.

Our *Indian* followers, who had attended us, beheld the scene before them with a degree of admiration bordering on veneration, arising not only from the affinity they traced in several of the figures to their own deities, but from their conviction of its being the work of some *Rácshas*, who they conceived had visited the earth to transmit to an admiring posterity a testimony of supernatural talents.

I shall dismiss this subject by observing, that though the contemplation of these surprising monuments of the genius of the ancient *Egyptians* creates a high idea of their civilization, and respect for their antiquity and progress in arts, it is obvious they are greatly indebted to a beneficent providence, which by placing them in a temperature, where the frequent and sudden transitions of climate seldom if ever occur, has given to their works a permanence they could never have derived from the combined power and art of man; though it must be allowed, that, notwithstanding the apparent aridity of the atmosphere, owing to the almost perpetual absence of rain, the exhalations * from the circumjacent in-

* It is an opinion in *Egypt*, that the fall of these dews, not only averts the plague, but cures those who are affected with it.

N. B. SONINI, in vol. III, of his Travels in *Egypt*, gives very correct delineations of some of the most remarkable sculptures of this temple.

undation are so great as to occasion, at one period of the year, a humidity little inferior to that which would proceed from actual immersion; and which in their consequences would equally affect that brilliancy of colouring which has stamped a characteristic pre-eminence on these *chef d'œuvres.*

TO ROBERT HOME, Esq.

Secretary to the Asiatic Society.

SIR,

THE ingenious and learned author of the inquiry into the life and writings of HOMER speaks of *abstracted* mythology, as the result of great search and science: being a comparison of the harmony and discord, the resemblance and dissimilitude, of the powers and parts of the universe, it often consists of their finest proportions and hidden aptitudes, set together and personated by a being acting like a mortal.

It is from this and similar observations of this instructive writer, and from the history of the *Heavens* by the *Abbe* PLUCHE, that I have been led to investigate the mythology of *India;* and to apply their mode of reasoning to a system which has generally been considered as a heap of wild and extravagant fable.

In fact we must view the images of *India* in the light of hieroglyphics, and endeavour to develope the allusion: this is the object of the accompanying attempts; but I only offer my conjectures; I insist upon no hypothesis.

If these essays should be deemed acceptable by

the Society, it will be an inducement to me to continue the research.

I am, Sir, your obedient Servant,
J. D. PATERSON.

DACCA, the 4th January, 1803.

III.

Of the ORIGIN *of the* HINDU RELIGION.

BY J. D. PATERSON, ESQ.

THE *Hindu* religion appears to me to have been originally a reform of existing systems, when the arts and sciences had arrived at a degree of perfection; that it was intended to correct the ferociousness and corruption of the times, and to reduce mankind to an artificial order on a firmer base of polity; that it was the united effort of a society of sages, who retained the priesthood to themselves, and rendered it hereditary in their familes, by the division of the people into separate casts; that it was supported by the regal authority, which, while it controlled, it supported in return: that it was promulgated in all its perfection at once as a revelation of high antiquity, to stamp its decrees with greater authority; and that it was founded on pure Deism, of which the *Gayatri*, translated by Sir WILLIAM JONES, is a striking proof; but to comply with the gross ideas of the multitude, who required a visible object of their devotion, they personified the three great attributes of the deity.

The first founders of the *Hindu* religion do not appear to have had the intention of bewildering their followers with metaphysical definitions; their description of the deity was confined to those attributes which the wonders of the creation so loudly attest: his almighty power to create; his provi-

dence to preserve; and his power to annihilate or change what he has created.

In fact, no idea of the deity can be formed beyond this: it is simple, but it forces conviction upon the mind. This simplicity, however, was destroyed when they attempted to describe these attributes to the eye by hieroglyphics; perhaps letters had not then been invented, in which case they could have no other mode of instruction than by signs and emblematical figures.

In order to impress on the minds of men a sense of their total and absolute dependance on him, by whom they live, and from whom they have their being, they invented the hieroglyphical figures of

BRAHMA	VISHNU	SI'VA.
	As emblematical of	
Creation	Preservation	Destruction.
	These are referred to	
Matter	Space	Time.
	And painted them	
Red	Blue	White.
To represent substance.	*To represent the apparent colour of space.*	*In contrast to the black night of eternity.*

BRAHMA had originally five heads, alluding to the five elements; hence in one of the forms given to SI'VA, as the Creator, he is likewise represented with five heads. But the introduction of images soon led the mass of mankind to consider these personified attributes as real distinct personages; and as one error brings with it many others in its train, men separated into sects, each selecting one of the triad, the particular object of their devotion, in

preference to, and exclusive of the others: the followers of VISHNU and SI'VA invented new symbols, each to ascribe to their respective divinity the attribute of creation. This contention for pre-eminence ended in the total suppression of the worship of BRAHMA, and the temporary submission of VISHNU to the superiority of SI'VA; but this did not last long; the sects raised crusades against each other; hordes of armed fanatics, under the titles of *Sannyasis* and *Vairágís,* enlisted themselves as champions of their respective faith; the former devoted their lives in support of the superiority of SI'VA, and the latter were no less zealous for the rights of VISHNU: alternate victory and defeat marked the progress of a religious war, which for ages continued to harass the earth, and inflame mankind against each other.

Plutarch has said of the *Egyptians,* that they had inserted nothing into their worship without a reason, nothing merely fabulous, nothing superstitious (as many suppose); but their institutions have either a reference to morals, or to something useful in life; and many of them bear a beautiful resemblance of some facts in history, or some appearance in nature; perhaps in the commencement to lead mankind into superstition was not intended nor foreseen; it is a weed that springs up naturally when religion is blended with mystery, and burdened with perplexing ceremonials. The mass of mankind lost sight of morality in the multiplicity of rites; and as it is easier to practise ceremonies than to subdue the passions, ceremonies gradually become substitutes for real religion, and usurp the place of morality and virtue.

This seems to have been the case with the religions of *Egypt* and *India.*

In the course of investigating the ceremonies of the *Hindus*, and in attempting to develope their meaning, it will be found necessary to compare them with the ceremonies and rites of *Egypt:* the resemblance is striking; they mutually serve to explain each other; and leave no doubt in my mind of their connexion, or rather identity.

The annihilation of the sect and worship of BRAHMA, as the ISWARA or supreme lord, is allegorically described in the *Cás'ic'hand* of the *Scanda Purán*, where the three powers are mentioned as contending for precedency. VISHNU, at last, acknowledges the superiority of SI'VA; but BRAHMA, on account of his presumptuous obstinacy and pride, had one of his heads cut off by SI'VA, and his *puja* abolished.

The intent of this fable is evidently to magnify the sect of SI'VA above those of BRAHMA and VISHNU; and if, instead of the *Dévatás* themselves, (who are described as the actors in this allegorical drama) we substitute the contending sects, the fable will appear not destitute of foundation in historical fact.

Of the VA'HANS, *or* VEHICLES *of the* GODS.

When the symbolical worship was introduced, the vehicles of the new deities were necessarily allegorical: the *Váhans* of the three supreme personified attributes were purity, truth, and justice; the first was typified by the *Swan*, which, clothed with unspotted whiteness, swims amidst the waters, as it were distinct from, and unsullied by them, as the truly pure mind remains untainted amidst the surrounding temptations of the world.

GARU'DA and ARU'NA are two brothers, the one remarkable for his strength and swiftness, the other (ARU'NA) is described as imperfect, and, on account of his defects, destined to act as *charioteer* to the Sun. ARU'NA is the *dawn*, the morning twilight, which precedes the Sun: GARU'DA is perfect light, the dazzling full blaze of day, the type of truth, the celestial *Váhan* of VISHNU.

Justice, typified in the sacred bull, is the *Váhan* of SI'VA. The Bull, whose body is *Paramés'wara*, and whose every joint is a virtue; whose three horns are the three *Védas;* whose tail ends where *Ad'herma*, or injustice begins.

Of OSIRIS, HORUS, TYPHON, *and* BRAHMA, VISHNU, *and* SI'VA.

IF we consider the *Egyptian* OSIRIS not as a name, but as a title of supremacy, which each sect, as their doctrines became in turn the established religion of the country, applied exclusively to the object of their worship; and if we consider it as the same with the *Sanscrit* ISWARA (the Supreme Lord), it will greatly illustrate the identity of the religions of *Egypt* and *Hindostan*, by a close coincidence of historical fact. The three great attributes of the Deity had in course of time been erected into distinct Deities, and mankind had divided into sects, some attaching themselves to BRAHMA, some to VISHNU, and others to SI'VA. The contention of schismatics from the same stock, is always more inveterate than where the difference is total, the sect of BRAHMA claimed exclusive pre-eminence for the object of their choice, as being *the creative power*, the ISWARA, or Supreme Lord. The two other sects joined

against the followers of BRAHMA, and obtained so complete a victory as to abolish totally that worship; the sect of SI'VA, being the most powerful, rendered theirs the established religion, and claimed for SI'VA, in his turn, the exclusive title of I's'WARA. The sect of VISHNU, or HERI, at length emerged from its obscurity, and, in concert with the followers of the *Sacti*, or female power, destroyed and abolished the sect and worship of SI'VA; thus VISHNU, or HERI, became the I's'WARA, and his worship the established religion. This seems to have been the case in *Egypt;* for, if we substitute the name of OSIRIS for BRAHMA, HORUS for VISHNU or HERI, TYPHON for SI'VA, and ISIS for the female principle, the history agrees in all its parts. A proof of the identity of SI'VA and TYPHON is the title of BABON. Mr. BRYANT says, that "BA-" BON was thought to have been the *same as* TY-" PHON, by some esteemed a *female*, and the wife" of that personage." One of the titles of SI'VA is BHUBAN, or rather BHUVAN-I's'WARA, the Lord of the Universe; his consort, in this character, is styled BHUVAN-I's'WARI', which may have occasioned the uncertainty mentioned by Mr. BRYANT, with respect to the sex of that Deity, since *Bhuvan* (world), or the *Universe*, is a part of the title of either.

The Sun is one of the forms of HERI, or VISHNU; OSIRIS and HORUS are both supposed to have been the Sun. The *Indian* expedition of OSIRIS coincides with the adventures of RA'MA, one of the incarnations of VISHNU. The four months sleep of HORUS tallies with the four months sleep of VISHNU.

The sacred Bull, the vehicle of SI'VA, was the emblem of justice, and peculiarly sacred to him amongst the *Indians;* and the living animal itself

was venerated at *Memphis* and *Thebes*, under the names of APIS and MNEVIS. The *Phallos* of OSIRIS was an object of worship, and it is known to be the hieroglyphic of SI'VA: and lastly, OSIRIS, like BRAHMA, is described as a great lawgiver.

If the conjecture I have set out with in this article, be considered with attention, it will account for the mixed character of the *Grecian* BACCHUS.

The word *Surá* in *Sanscrit* signifies both *wine* and true wealth; hence in the first *C'hand* of the *Rámáyan* of VA'LMI'C it is expressly said, that the *Dévatás*, having received the *Surá*, acquired the title of *Suras*, and the *Daityas* that of *Asura* from not having received it. The *Véda* is represented as that wine and true wealth; and the *Dévatás* as enjoying it in a superior degree, being termed *Suras*: the prince, or supreme leader of the *Suras*, became in the *Grecian* Deity (by a confined translation of the word), the god of wine and drunkards.

BACCHUS, or OSIRIS, was represented by an equilateral triangle; SI'VA has the same hieroglyphic: the worship of BACCHUS was the same as that which is paid to SI'VA; it had the same obscenities, the same bloody rites, and the same emblem of the generative power.

In BACCHUS may be traced the characteristics of each of the personages in the *Indian* triad; and this may be accounted for by supposing the *Greeks* to have been deceived by the title OSIRIS; they, considering it as the name of an individual, mingled the characters and adventures of all the three in one personage. BACCHUS may possibly be derived from a title of VRIHASPATI, VA'G-I'S'A, the lord of speech, which might be applied to BRAHMA' as the

husband of SARASWATI', the goddess of speech. The *Greeks* called him BROMIOS, as Sir WILLIAM JONES says, without knowing why; and he was styled by the *Romans*, BRUMA: his feasts were celebrated for several days at the winter solstice; from him they were called *Brumalia*, and the winter solstice itself *Bruma*.

The crescent of SI'VA may have suggested the horns of BACCHUS; and his army of Satyrs, and victories in *India*, shew the resemblance of this part of his character to VISHNU as RA'MA, who, with his army of monkies, overran the peninsula of *India*.

It was a common practice with the *Greeks* to disguise their own ignorance of the purport of a foreign word, by supplying a word of a similar sound, but different meaning, in their own language, and inventing a story to agree with it: thus *Méru*, or the north pole, the supposed abode of the *Dévatàs*, being considered as the birth-place of the God, gave rise to the fable of BACCHUS's second birth from the thigh of JUPITER, because *Meros*, a *Greek* word approaching *Méru* in sound, signifies the thigh in that language. SI'VA is described as taking the form of a *Sinh*, in the battle of DURGA' and MAHISHA'SURA; he seizes the monster with his claws and teeth, and overthrows him, while DURGA', with her spear, finishes the conquest by his death. Thus BACCHUS, under the same form, is described as destroying the giant RHŒCUS.

Rhœcum retorsisti Leonis
Unguibus horribilique Mala.

The *Hindu* sacrifices to DURGA' and CA'LI' resemble those of BACCHUS. When the stroke is given, which severs the head of the victim from its body, the cymbals strike up, the *Sanc'ha* or *Buccinum* is blown,

and the whole assembly, shouting, besmear their faces with the blood; they roll themselves in it, and, dancing like demoniacs, accompany their dances with obscene songs and gestures. The Àbbé PLUCHE mentions the same particulars of the assistants in the sacrifices of BACCHUS. The winnowing fan, the

Mystica vannus iacchi,

is always used in the rites of CA'L, CA'LI', and DURGA'; but the *Hindus* at present affix no other idea of mystery to it, than its being an appendage to husbandry; they use it as a tray, on which they place, before the image of the Deity, the *Sesamum* or *Til*, the *Mundir*, with its lamp, and all the other articles used in the ceremony. A tray could serve the purpose; but on all solemnities the rituals prescribe exclusively the use of this van or fan, which they call *Surp*.

Of VISHNU, *as the* CREATIVE POWER.

The *Vaishnavas*, in order to appropriate the creative principle to VISHNU, make BRAHMA, whom they acknowledge as the immediate agent of creation, to derive his origin from a *Lotos*, which sprang out of the navel of VISHNU whilst sleeping upon the vast abyss of primeval waters; thus VISHNU becomes superior to BRAHMA, as being the cause, first, of his existence, and secondly, of all created things through his agency. The *Argha* is a vessel of copper used by the *Brahmens* in their *puja*; its shape is intended to represent the universal Mother, but in the centre of it is an oval rising embossed, and by this the *Vaishnavas* assert, is meant the navel of VISHU, from which all things originally sprang; and by the mystic union of these two principles of production, it is intended to describe them as identically one. The *Saivas*, however, insist, that this Omphalic rising is meant as the emblem of the

Ling; hence SI'VA's title of ARGHANA'T'H, and in the *Agama*, ARGHA-I'S'A, both meaning the Lord of the sacred Vessel *Argha*.

VISHNU is represented, in the tenth *Avatár*, as the destroying power, thus ascribing to him the attribute of SI'VA.

VISHNU is represented by the *Vaishnavas* with four arms, and in each hand he bears a symbol. These symbols seem intended to unite the three great attributes in him, and to express his universal supremacy. The *Lotos* typifies his creative power, (in allusion to the *Lotos* which sprang from his navel). The *Sanc'ha* typifies his attributes of preservation, and the mace that of destruction; while the *Chacra* expresses his universal supremacy, as *Chacra-Vartí*, or Lord of the *Chacra*, when applied to a monarch, indicates universal empire; applied to a *Pundit*, the possessor of the whole circle of Science.

Of SI'VA, *as the* CREATIVE POWER, *and* BHAVA'NI'.
Of CA'L——————*and*——————CA'LI'.

When the personified attributes of the Deity ceased to be considered as mere hieroglyphics; when mankind began to view them in the light of distinct persons, and attaching themselves to the worship of one or of the other exclusively, arranged themselves into sects, the worshippers of SI'VA introduced the doctrines of the eternity of matter. In order to reconcile the apparent contradiction of assigning the attribute of creation to the principle of destruction, they asserted, that the dissolution and destruction of bodies was not real, with respect to matter, which was indestructible itself, although its modifications were in a constant succession of mutation; that the power which continually operates these changes, must necessarily unite in itself

the attributes of creation and apparent destruction: that this power, and matter, are two distinct and co-existent principles in nature; the one agent, the other patient; the one *male*, the other *female*; and that creation was the effect of the mystic union of these principles.

The hieroglyphic of this union was worshipped under a variety of names, BHAVA and BHAVA'NI', MAHADE'VA and MAHA' MA'YA', &c. Thus the attribute of creation was usurped from BRAHMA, by the followers of SI'VA, to adorn and characterize their favorite Deity.

This seems to have been a popular worship, for a great length of time. Two sects, however, sprang up out of it: the one personified the whole universe, and the dispensations of providence in the regulation thereof, into a Goddess; this sect retained the female symbol only, and denominated themselves *Sácta*, as worshippers of the *Sacti*, or female power, exclusively, which they called *Pracriti*; and which we, from the *Latin*, term nature.

The other sect insisted, that there was but one, eternal, first cause; that every thing existing, derived its existence from the sole energy of that first cause (*Niranjen*).

In order, therefore, to express their ideas of the absolute independence of this supreme power upon any extra co-operation, they took for their symbol the male emblem, unconnected with that of the female; a third sect likewise arose, which intended to reconcile the idea of the unity of godhead with that of the existence of matter and spirit; they, therefore, contended, that the union of those two principles was so mysteriously intimate as to form but one being, which they represented by a figure

half male and half female, and denominated HARA-GAURI', and ARDHANA'RI' IS'WARA. It is probable that the idea of obscenity was not originally attached to these symbols: and it is likely, that the inventors themselves might not have foreseen the disorders which this worship would occasion amongst mankind. Profligacy eagerly embraces what flatters its propensities, and ignorance follows blindly wherever example excites: it is, therefore, no wonder that a general corruption of manners should ensue, increasing in proportion as the distance of time involved the original meaning of the symbol in darkness and oblivion. Obscene mirth became the principal feature of the popular superstition, and was, even in after times, extended to, and intermingled with, gloomy rites and bloody sacrifices. An heterogeneous mixture, which appears totally irreconcileable, unless by tracing the steps which led to it. It will appear that the ingrafting of a new symbol, upon the old superstition, occasioned this strange medley. The sect of VISHNU was not wholly free from the propensity of the times to obscene rites; it had been united in interest with that of SI'VA, in their league against the sect of BRAHMA, as was expressed by an image, called HAR-HERI, half SI'VA and half VISHNU. This union seems to have continued till the time when an emblem of an abstract idea, having been erected into an object of worship, introduced a revolution in religion, which had a violent and extended effect upon the manners and opinions of mankind.

It was then that a gloomy superstition arose, which spread its baneful influence with rapidity amongst mankind; which degraded the Deity into an implacable tyrant; which filled its votaries with imaginary terrors; which prescribed dreadful rites; and exacted penances, mortifications, and expiatory sacrifices. In short, it was the worship of CA'LI

and CA'LI', introduced by the sect of SI'VA, which caused a total separation of the sect of VISHNU, and introduced those religious wars which, in distant ages, seem to have distracted mankind; and of which traces are, even at this day, to be found.

With a view to unite the three great attributes of creation, preservation, and destruction in one symbol, the *S'aivas* personified the abstract idea of time (CA'L), which may, figuratively, be said to create, preserve, and destroy. They therefore distinguished artificial time and eternity with peculiar emblems, in which the attribute of destruction, the characteristic of SI'VA, evidently predominates. The personified *Sacti*, or energy of each of these allegorical personages, was decorated with corresponding emblems. The contemplation of the distinctions of day and night; of the light and dark divisions of the month; of the six months night and six months day of the Gods (occasioned by the apparent obliquity of the Sun's path); and lastly, the contrast of the visible creation with eternal night, suggested the idea of painting CA'L white and CA'LI' black.

To SI'VA they have given three eyes; probably to denote his view of the three divisions of time, the past, the present, and the future. A crescent on his forehead pourtrays the measure of time by the phases of the Moon. A serpent forms a necklace to denote the measure of time by years. A second necklace, formed of human skulls, marks the lapse and revolution of ages, and the extinction and succession of the generations of mankind. He holds a trident in one hand, to shew that the three great attributes are in him assembled and united. In the other hand is a kind of rattle, called *damaru*, shaped like an hour glass: I am inclined to think, it was really, at first, intended as such; since it agrees with the character of the Deity; and a sand

gheri is mentioned, in the *Sastra,* as one of the modes of measuring time, and of ascertaining the length of a *gheri.*

In the hieroglyphic of the *Mahá Pralaya,* (or grand consummation of all things, when time itself shall be no more,) he is represented as *trodden under foot by* MAHA' CA'LI', or Eternity.

He is there deprived of his crescent, trident, and necklaces, to shew that his dominion and powers are no more. He is blowing the tremendous horn, which announces the annihilation of all created things.

MAHA' CA'LI', *black* and dreadful, is encompassed by symbols of destruction: two of her hands seem employed in the work of death: of the other two, one appears pointing downwards, alluding to the universal havoc which surrounds her: while the other, pointing upwards, seems to promise the regeneration of nature, by a new creation.

When the Sun begins his southern declination, the night of the Gods begins: that is, when their supposed abode, *Méru,* (the north pole) begins to be involved in a night of six months: and, as this period may be considered as a type of *Mahá Pralaya,* the worship of MAHA' CA'LI' is celebrated at the commencement thereof.

MAHA' CA'LI' is represented without a crescent, (the artificial measure of time,) because it is unnecessary to her character as the hieroglyphic of eternity. But the belief of the *Hindus* in successive destructions and renovations of the Universe, accounts for her wearing a *Mund Málá,* or necklace of skulls, as emblematical of those revolutions.

MAHA' CA'L, as represented in the caverns of

Elephanta, had eight arms. In one hand he holds a human figure: in another a sword, or sacrificial axe; in a third he holds a basin of blood; and with a fourth he rings over it the sacrificial bell: two other arms are broken off; but with the two remaining he is drawing behind him a veil, which extinguishes the sun, and involves the whole Universe in one undistinguished ruin. One of the titles of this tremendous Deity is BHAIRAVA, the horrific, but his principal designation is CA'L AGNI RUDRA.

If the contemplation of the grand consummation of all created things struck the mind of the initiated *Bráhmen* with awe; the uninformed mass of people would not be less affected with the dreadful appearance and implacable character of this Deity. To appease and reconcile so tremendous a Being would naturally become an object of the greatest necessity and anxiety; the personified metaphor of all-devouring time, presented to their eyes a divinity delighting in blood and slaughter; the zeal of worshippers encreased in proportion to their terrors. The unenlightened mind dwells with disturbed and anxious attention upon horrors of its own creation; and superstition takes its form and colour from the objects which excite it: hence arose those bloody rites, those consecrated cruelties, and those astonishing penances, which not only obtained in *India*, but pervaded almost every part of the ancient world. Thus a new superstition was grafted upon the old, as much adapted, by its vain terrors, to degrade the human mind, as the former had been to corrupt it.

If it was intended to instruct mankind in the hieroglyphic language of former ages, and to shew them how absolutely necessary it was, to make a sacrifice of their vices and depraved appetites, before they could render themselves acceptable to the Deity, could any way be more natural than to typify

those vices by animals whose propensities are analogous to them; and by the allegorical slaughter of them before the altar of the Deity, to denote the sacrifice required. To the uninformed multitude such an hieroglyphic would seem to prescribe the actual sacrifice of the animal. The emblematical apparatus of CA'L and CA'LI' would confirm them in the error; and when once the idea was admitted, that the blood of animals was acceptable to the Deity, fanaticism would soon demand human victims. Humiliation and presents appease earthly princes; but the divinity of fanaticism was supposed to require more costly offerings, and the severest mortifications which inventive zeal could suggest; a false pride, and vain ambition of displaying superior sanctity, excited an emulation amongst the deluded zealots, which steeled the heart against pain, and supported the sufferers under all their self-inflicted torments. This artificial insensibility acquired the reputation of inspired fortitude; and the admiration of ignorant multitudes repaid the fanatic for his voluntary tortures.

Such were the disorders which arose out of the worship of emblematical Deities.

The doctrines of the *Saivas* seem to have extended themselves over the greatest portion of mankind; they spread amongst remote nations, who were ignorant of the origin and meaning of the rites they adopted: and this ignorance may be considered as the cause of the mixture and confusion of images and ideas which characterised the mythology of the ancient *Greeks* and *Romans*.

In fact, foreign nations could only copy the outward signs and ceremonies: they could not be admitted beyond the threshold of the temple: the *adytum* was impenetrable to them. CA'L and CA'LI'

assumed various names: CA'L became CRONOS, MOLOCH, SATURN, DIS, PLUTO, and TYPHON; CA'LI' became HECATE, PROSERPINE, and DIANA, who was worshipped with bloody sacrifices at *Tauris*. It was to the barbarians that the *Greeks* were referred, by their own writers, to learn and understand the names and origin of their Deities.

SI'VA, in his character of the Creative Power, became the ZEUS TRIOPHTHALMOS, JUPITER, and OSIRIS; his consort, BHAVA'NI', became JUNO, VENUS, CYBELE, RHEA, the *Syrian* Goddess, the armed P'ALLAS, ISIS, CERES, and ANNA PERENNA. This multiplication of Deities arose from the ignorance of foreign nations as to the source of the superstition which they adopted, and the original meaning of the symbols; they supplied their want of information by fables congenial to their own national character and manners: hence arose those contradictions, which made their mythology a labyrinth of confusion.

When the *Saivas* intended to ascribe particularly, to the object of their worship, the benefits arising from any operation of nature, they decorated the image with suitable emblems, and assigned to the Deity a corresponding title.

For instance, S'ANCARA, (which signifies the benefactor,) is a title of one of those forms of SI'VA or CA'L. To him the gratitude of the *Saivas* attributed the blessings which are derived from the waters of the *Ganges*, which rolls its fertilizing stream through various countries, bestowing life and happiness on millions of created beings.

They therefore adorned the image of CA'L with emblems applicable to the mountain whence that stupendous river flows.

As this beneficial stream makes its way from the tops of that mountain through the creepers and underwood, which seem to obstruct its passage to the plains, it is represented to flow from the head of the Deity, through his *jat'á*, or clotted hair: and as tigers, elephants, and serpents, infest the skirts of the mountains, he is surrounded with serpents, his lower clothing is the skin of the elephant, and he is seated on that of the tiger. He is likewise called NI'L-CANT'HA (blue neck), from the appearance which the clouds assume when arrested in their course by the overtopping summit of the mountain.

He has likewise the title of *Giri* I's'WARA, or lord of mountains; and this union of the attributes of SI'VA with those of the mountain, is more distinctly pointed out in his marriage with PA'RVATI', a derivative from *parvat*, a mountain.

As the image of SI'VA, in this character, was an object of local veneration, its worship was probably confined to the banks of the *Ganges*. Had it reached the nations of *Europe*, he would have been considered as a distinct and separate divinity, and ranked amongst the river Gods. This symbol is admitted by the *Vaishnavas:* but in order to ascribe this inestimable gift to VISHNU, and to assert his superiority over SI'VA, they insist that the river first flowed out of *Vaicun't'ha* (the heaven of VISHNU), from the feet of VISHNU; that when it had descended upon the mountain *Cailás*, it was received by SI'VA, and placed on his head amongst his plaited locks.

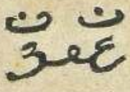
On JAGAN-NA'TH, &c.

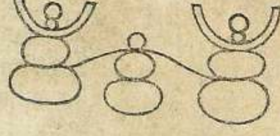
The temple of JAGAN-NA'TH is a famous resort for pilgrims of all sects, for it is revered by all, it is a converging point where all the contending parties unite in harmony with each other. What is the

secret spring of this concurrence of sentiment in sects, otherwise so irreconcilable to each other? What is intended by a representation, so extraordinary, of the Deity of the place: a figure that resembles nothing in the heavens above, or the earth beneath, or in the waters under the earth.

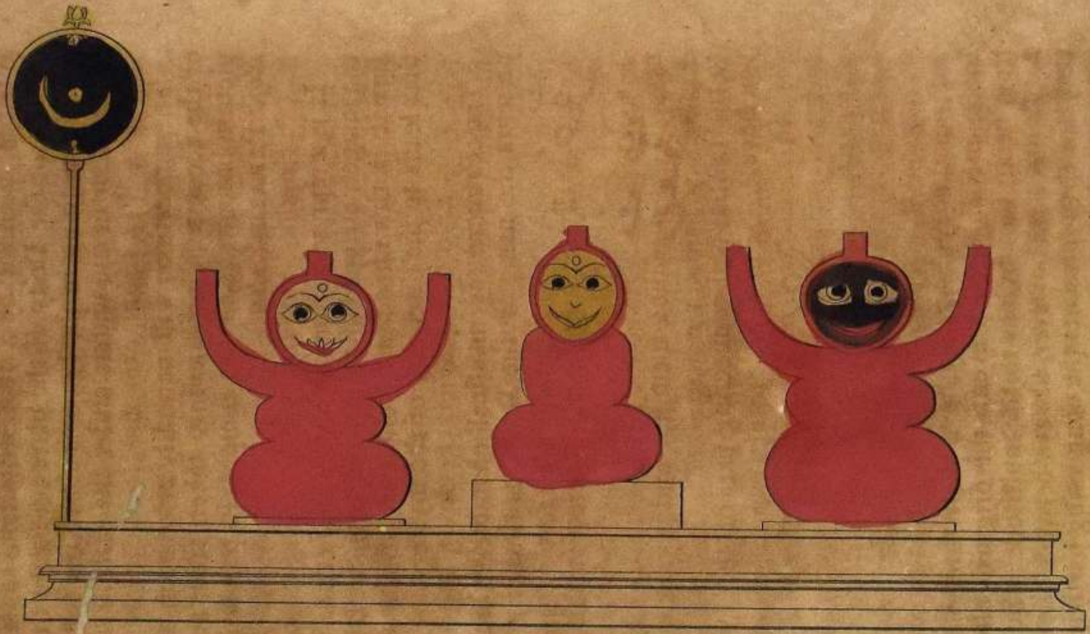
These questions will naturally arise upon a view of the accompanying drawing, taken from a large picture brought from the temple, in possession of *Raja* PARAS'U RA'M.

It is a representation of the SNA'N JATRA, when the images, stripped of their ornaments, are bathed. But it is this unadorned condition of the image that leads to the discovery of the mystery.

The *Pranava*, or mystical character which represents the name of the Deity, is thus expressed ॐ. By making a cypher thereof in this manner,  filling them up, and giving a body to the central and connecting part of the cypher, you have



From this cypher, they have made three distinct Idols; probably, to prevent the original allusion from being too obvious to the multitude. SUBHADRA's place is, however, always between the other two, for she represents the connecting participle of the cypher; the propriety of her being so situated is therefore evident; and as the actual connection



Bal-Rám. Sabhadrá. Jagan nath.

is dissolved, by the separation of the figures into distinct idols, we see the reason of her being represented without arms.

CRISHNA, as PARAME'S'WARA, is JAGAN-NA'TH, or Lord of the Universe; his half brother is BAL-RA'M (a terrestrial appearance of SI'VA); and SUBHADRA' is a form of DEVI.

To me it appears a stroke of refined policy, in the first founders of the temple, to present, as an object of worship, the personification of the triliteral word which is held in reverence alike by all sectaries; and to give it a title which each sect might apply to the object of its particular adoration. The intention of the foundation was evidently to render the temple a place of pilgrimage open to all sects, and to draw an immense revenue from the multifarious resort of devotees. The ornaments and apparel with which they cover the image, conceal the real figure from the multitude, and give it an air of mystery: the fascination of mystery is well understood by the *Brahmens*.

JAGAN-NA'TH and BAL-RA'M have both the same form, to shew their identity, and their faces have the respective colours of VISHNU and SI'VA. Considered in this point of view, this temple may be considered as the rallying point for the three great sects. It is upon this principle, that JAGAN-NA'TH and BAL-RA'M appear sometimes with the attributes of GANE'S'A, to shew that it is one and the same Deity who is worshipped under so many names and forms.

On CRISHNA.

When the *Vaishnavas* separated themselves from the *Saivas*, they introduced a new symbol of the Sun, under the name of CRISHNA, as a contrast to the horrid rites of CA'LI', which had so disgusted them.

CRISHNA, being an incarnation of VISHNU, is depicted with the same characteristic complexion of dark azure, to identify the Deity in the symbol.

The Earth is represented as a Cow, the cow of plenty; and as the planets were considered by the *Hindus* to be so many habitable Earths, it was natural to describe them by the same hieroglyphic; and as the Sun directs their motions, furnishes them with light, and cherishes them with his genial heat, CRISHNA, the symbol of the Sun, was pourtrayed as an herdsman, sportive, amorous, and inconstant.

The twelve signs are represented as twelve beautiful Nymphs; the Sun's apparent passage, from one to the other, is described as the roving of the inconstant CRISHNA. This was probably the groundwork of JAYADE'VA's elegant poem, the *Gíta Góvinda*. It is evidently intended by the circular dance exhibited in the *Rás'ijátrá*. On a moveable circle, twelve CRISHNAS are placed alternately with twelve GO'PI's, hand in hand, forming a circle; the God is thus multiplied to attach him to each respectively, to denote the Sun's passage through all the signs; and, by the rotary motion of the machine, the revolution of the year is pointed out.

CRISHNA obtains a victory on the banks of the *Yamuná* over the great serpent *Cálíyá Nága*, which had poisoned the air, and destroyed the herds in that region.

This allegory may be explained upon the same principle as the exposition given of the destruction of the serpent *Python* by the arrows of APOLLO. It is the Sun which, by the powerful action of its beams, purifies the air, and disperses the noxious vapours of the atmosphere.

Both in the *Padma* and *Garuda* we find the serpent *Cálíya,* whom CRISHNA slew in his childhood, among the Deities "worshipped on this "day; as the *Pythian* snake, according to CLEMENS, "was adored with APOLLO at *Delphi.*"

Perhaps this adventure of CRISHNA with the *Cálíya Nága,* may be traced on our sphere, for we find there *Serpentarius* on the banks of the heavenly *Yamuná,* the milky way, contending as it were with an enormous serpent, which he grasps with both his hands.

The identity of the APOLLO NOMIOS and CRISHNA is obvious: both are inventors of the flute; and CRISHNA is disappointed by TULASI in the same manner as APOLLO was deluded by DAPHNE, each nymph being changed to a tree; hence the *Tulasi* is sacred to CRISHNA, as the *Laurus* was to APOLLO.

The story of NA'REDA visiting the numerous chambers of CRISHNA's seraglio, and finding CRISHNA every where, appears to allude to the universality of the Sun's appearance at the time of the Equinoxes, there being then no part of the Earth where he is not visible in the course of the twenty-four hours.

The Demons, sent to destroy CRISHNA, are perhaps no more than the monsters of the sky, which allegorically may be said to attempt in vain to obstruct his progress through the Heavens.

Many of the playful adventures of CRISHNA's childhood are possibly mere poetical embellishments to complete the picture.

Perhaps the character of CRISHNA should be regarded in a two-fold light; in one as the symbol of

the Sun, in the other as an allegorical representation of the rise and progress of the doctrines of the persecuted *Vaishnavas*, from the infancy of the sect till its full establishment. CANSA is represented as a S'AIVA; he appears to have persecuted the sect of VISHNU: but that oppressed sect seems to have multiplied under persecution, till the increase of their power enabled them to overthrow their oppressors; and, finally, to establish the doctrines of VISHNU upon the ruins of SI'VA.

Of CA'RTICE'YA, *the supposed* MARS *of* INDIA.

He is represented as a warrior with *six* faces: he is armed with arrows and spears, and he is drawn riding upon a peacock. I suppose this figure to be an emblem of the sun, invented by the worshippers of the *Ling*, when they first separated into a distinct sect; or, in the hieroglyphical language of the *Brahmens*, when he was produced from the seed which MAHA'DE'VA shed upon the Earth, after he had been separated from BHAVA'NI', with whom he had been in strict union a thousand years. My supposition, however, contradicts the present received opinions of the *Hindus*; for they do not consider CA'RTICE'YA as the Sun. But, if we examine the figure, we shall find that it can only be applied to the Sun; and it will be found to agree in all its parts.

The *Hindus* divide the year into six *Ritus*, or seasons, in each of which the Sun appears with a different aspect. There are six stars in the lunar constellation, *Criticá*; and, as he derives his name from that *Nacshatra*, those stars are represented as his nurses, one for each month. Probably the symbol was invented either when the Sun was itself in that lunar constellation, or in the month *Cártica*,

when the Moon was full in *Criticá*. His arrows and missile weapons represent his rays; the APOLLO of the *Greeks* had also his bow and quiver of arrows. The worship of CA'RTICE'YA takes place on the last day of *Cártica*, as preparatory to military expeditions, which ought to commence, according to MENU, in the month *Agraháyana*, the Sun being more propitious at that period for such undertakings.

The setting Sun seems followed by the host of Heaven; but how can this be expressed in a single hieroglyphical figure? It was done by giving him a peacock for his *Váhan*, or vehicle, in which the tail of this beautiful bird, studded with eyes, and expanded behind the God, pourtrays the firmament spangled with stars. The *Egyptians* sometimes represented the Sun in the character of a warrior, and he is said to have been addressed as such in the mysteries. But CA'RTICE'YA is not now considered by the *Hindus* as the Sun: to account for this, I suppose, that whenever any new sect arose amongst the *Hindus* in former ages, the leaders invented new symbols, exclusively peculiar to themselves, with a view to render their separation from the parent stock more complete, and to mark their worship with distinguishing characters. This practice would give rise to various and different representations of the same object; and, in course of time, as the heat of religious animosities cooled, these various symbols would come to be considered as separate Divinities, and be all blended in one mass of superstition. Thus the Sun, under the name of CA'RTICE'YA, becomes the god of war; and, under the name of CRISHNA, the shepherd god of *Mat'hurá* and *Vrindávana*. The Sun is now separately worshipped under the names of *Súrya* and *A'ditya*.

Of Indra, *the Emblem of the Visible Heavens.*

I am led to believe, that many of the fables, inserted in the *Purános*, were invented, either after the real meaning of an hieroglyphic had been lost, to conceal that ignorance, or purposely to mislead the mass of people, and prevent too curious and close an inquiry.

Indra is described, like Argus, covered with eyes; to account for this, the fable relates, that Indra, having seen the beautiful wife of a certain *Rishi**, was anxious to be more intimate with her; but the watchful husband prevented the intercourse, by arriving unseasonably for the god; the enraged saint uttered an imprecation, and wished that the god might be covered all over with representations of what had been the object of his desires; the curse took immediate effect. The god, full of shame, repented, and, by his entreaties, at last prevailed on the holy man to mitigate the curse, by changing the marks of his shame to as many eyes.

I consider this fable as an instance of the foregoing observation: for Indra is a personification of the atmosphere and visible Heavens; and, of course, the eyes with which he is covered describe the stars. The rain-bow is the bow of Indra. The water-spout is the trunk of his elephant; thunder, lightning, and rain, and every phenomenon of the atmosphere, belong to his department; and, like the Jupiter of the *Greeks* and *Romans*, he has his Heaven, a mansion of sensual delights and enjoyment.

Of Jupiter *and* Europa, *and* Jupiter *and* Leda.

The *Hindus* have eight representations of female figures, which, except in sex, exactly resemble the

* Ahilya', wife of Gótama.

Deity, of which each is a *S'acti*, or power, with the same attributes and *vehicle*: MA'HE'S'WARÍ is the *S'acti* of MAHE'SA, or SI'VA; BRA'HMÍ, or BRAHMA'NÍ, of BRAHMA'; NA'RA'YANÍ, of NARA'YENA; AINDRÍ, of INDRA; CAUMA'RÍ, of CA'RTICE'YA; VA'RA'HÍ, of VISHNU, in the *Váráha Avatár*; NARASINHÍ, of VISHNU, in the *Narasinha Avatár*; and APARA'JITA', a form of BHAVA'NÍ, the female principle: this last may be the aphrodite of the *Greeks*. It is probable that the representation of MA'HE'S'WARÍ, or a female SI'VA, riding on a white bull, may have given rise to the story of EUROPA's rape: and the representation of BRA'HMÍ, or the female BRAHMA', with the swan, may, in like manner, have occasioned the fable of JUPITER and LEDA. These explanations were, perhaps, invented by the *Greeks* to account for symbols, of the meaning of which they were ignorant.

ANNA PERENNA.

The *Romans* themselves were ignorant of the history of this goddess, and the origin of her rites, although she was an object of their veneration and worship. From whence did this ignorance proceed? Was it that the memory of the institution was lost in its remote antiquity? Or was it an adoption of a foreign ritual, without adverting to its origin?

According to some authors, she was the daughter of BELUS, and sister of DIDO, who fled to BATTUS, king of the isle of *Malta*, after the death of her sister, when HIERBAS, king of the *Getuli*, attempted to take *Carthage*. Not finding herself safe with BATTUS, on account of the threats of HIERBAS, she fled to LAURENTUM in *Italy*, where ÆNEAS was settled: he met her on the banks of the *Numicius*, and received her into his palace,

treating her with the respect due to her quality. Lavinia considered her as a rival, and sought her destruction; but Anna being admonished of this in a dream, fled to the river *Numicius*, whereof she was made a Nymph, as she told those who sought for her, and ordered them to call her in future Anna Perenna, because she should for ever remain under those waters.

> ———— placidi sum Nympha Numici:
> Amne perenne latens Anna Perenna vocor.
> Ovid, *Fast. Lib. 3d, Vers.* 653.

The *Albans* instituted rejoicings on the banks of the river, with dancing and feasting; and the *Romans*, in imitation of them, did the same on the banks of the *Tiber*. The dances and sports were very indecent and lascivious. Ovid has described these festivals, which were celebrated on the 15th *March:* they sacrificed to her for long life; *annare et perennare.*

It is probable that this legend was a popular tradition, merely local, peculiar to the *Romans* and *Albans;* but it was not the sole conjecture, for, according to Ovid, some supposed her to be the Moon, some Themis, and others Io; some imagined she was the daughter of Atlas, and some took her for Amalthea, who nursed Jupiter in his infancy; while others conceived her to be an old woman of *Bovilla*, who was supposed to have fed the people of *Rome*, in very ancient times, when oppressed by famine, in a miraculous manner, and to have then fled and disappeared in the holy *Aventine Mount*, and in gratitude for this relief this festival had been instituted by the *Romans*.

Amidst so many conjectures, perhaps we may at this distance of time discover the mystery at *Be-*

nares, in ANNA PU'RN'A' DE'VÍ, the *Hindu* Goddess of Abundance, whose name is derived from *Anna* (food), and *Púrńá* (abundant); let us regularly weigh each conjecture mentioned by OVID, rejecting only the local story of the deified sister of DIDO, and we shall find none that is inapplicable to the *Hindu* goddess. 1st. The DIANA of the *Romans* was represented with a crescent on her forehead; it was her characteristic mark. The *Hindu* goddess, as being the consort of SI'VA or CA'L, is decorated in like manner; this may account for her being considered as the Moon. 2dly. The attributes of THEMIS, whether she is considered as CERES, which was the supposition of CLEMENS of *Alexandria*, in his description of her obscene mysteries; or as the goddess of justice, piety, and virtue, as described by DIODORUS SICULUS, are equally applicable to ANNA PU'RNA' DE'VÍ; the conformity of her name and office to the attributes of CERES is strikingly apparent. But, if THEMIS is justice, piety, and virtue personified, the character will equally suit the consort of the god of justice, VRISHA I'S'WARA, and the lord of the sacred bull, DHERMA RA'JA'. 3dly. That she was Io, the daughter of INACHUS, under the form of a cow, is a supposition which will not be found inapplicable to ANNA PU'RNA' DE'VÍ, when it is known that the Earth, symbolized as a cow of plenty, is one of the forms of the *Hindu* goddess. 4thly. That she was the daughter of ATLAS, MAIA, who was beloved by JUPITER, is a conjecture for which a foundation may be traced in the *Hindu* goddess. Might not the name of MAYA or MAHA MAYA (the beloved consort of SÍVA) have given rise to this conjecture; the *Hindu* term being applied to signify the mother, the great mother! 5thly. The image of ANNA PU'RNA' is represented sitting on a throne, giving food, with a golden ladle,

to an infant Síva, who stretches out his little hand to receive it. Is not the resemblance particularly striking between this representation and the character of Amalthea, who nursed Jupiter when an infant? Lastly, the tradition of her being the old woman of *Bovilla*, which Ovid himself seems inclined to adopt, is equally applicable to Anna Pu'rna' Deví, who, according to the *Puránas*, under the form of *an old woman*, miraculously fed Vya'samuni, and his ten thousand *Pupils*, when reduced to the extremities of distress and famine by the anger of Síva, because Vya'sa had presumed to prefer Vishnu to him.

It may not, therefore, be an unfounded conjecture, that the consort of Síva is the point in which all those opinions meet, and that they were founded on confined and confused traditions of the goddess of abundance.

Description of Anna Pu'rna' De'ví, *from the* Annada' Cripa'.

She is of a ruddy complexion, her robe of various dies, a crescent on her forehead; she gives subsistence; she is bent by the weight of her full breasts; Bhava, or Síva (as a child), is playing before her, with a crescent on his forehead; she looks at him with pleasure, and seated (on a throne) relieves his hunger; all good is united in her; her names are Annada', Anna Pu'rna' Deví, Bhava'ní, and Bha'gavatí.

EXTRACTS.

Sunt quibus hæc luna est, quia mensibus impleat annum: 657
Pars Themin, Inachiam pars putat esse bovem.
Invenies, qui te Nymphen Atlantida dicant;
Teque Jovi primos, Anna, dedisse cibos. 660
Hæc quoque, quam referam, nostras pervenit ad aures
Fama: nec a verâ dissidet illa fide.

Plebs vetus, et nullis etiamnum tuta tribunis,
  Fugit; and in sacri vertice montis abit.
Jam quoque, quem secum tulerant, defecerat illos
  Victus, et humanis usibus apta Ceres.
Orta suburbanis quædam fuit Anna Bovillis
  Pauper, sed mundæ sedulitatis, anus.
Illa, levi mitrâ canos redimita capillos,
  Fingebat tremulâ rustica liba manu.
Atque ita per populum fumantia mane solebat
  Dividere. Hæc populo copia grata fuit.
Pace domi factâ signum posuere Perennæ,
  Quòd sibi defectis illa tulisset opem.

OVID, *Fast. Lib. 3d.*

Of the Four Months Sleep of HORUS *and* VISHNU.

The Abbé PLUCHE (to whose ingenious work I am so much indebted), mentions two hieroglyphics, one taken from the *Isiac* table, and the other described upon a Mummy. They both relate to the sleep of HORUS.

The one represents a couch, in the form of a lion, with HORUS swaddled up and sleeping on it. Beneath the couch are four jars: an ANUBIS is standing by the side of the couch; and an ISIS at the head of it, in the act of awakening HORUS.

When ANUBIS, or the Dog Star, rose heliacally, the *Egyptians* considered it as a warning to them of the approach of the inundation, during which the operations of husbandry were suspended; this suspension was deemed a period of rest: to express that inaction, HORUS was described as swaddled up, unable to use his arms, and sleeping upon this lion-formed couch. ANUBIS is putting him to rest, because the rising of the Dog Star proclaimed that cessation of labour. The four jars denote the four months. When, by the operations of nature, the water has subsided, and the river has been reduced

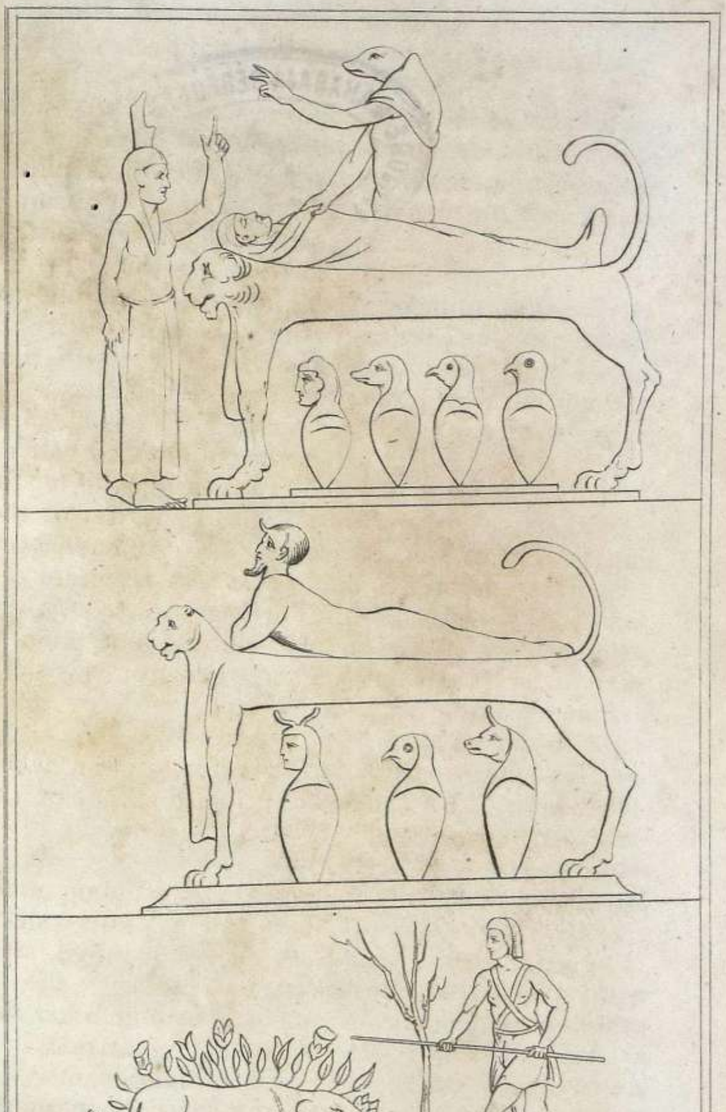
within its banks, labour is resumed, and HORUS is awakened by ISIS, or personified nature.

In the other hieroglyphic, we have the same couch with HORUS swaddled up, but in the act of turning himself: there are only three jars under this couch, to denote, that this action of turning himself to sleep, on his other side, takes place at the commencement of the third month. This interpretation I have given, because what follows, respecting the sleep of VISHNU, seems to justify it. Let us therefore turn to the *Hindu* representation of the four months sleep of VISHNU or HERI.

On the eleventh day of the enlightened half of the lunar month, *Asárh*, VISHNU begins his repose on the serpent, *Sésha*. On the same day of the bright half of the lunar month, *Bhádra*, he *turns on his* side; and on this day the *Hindus* celebrate the *Jal Yátrá*, or the retiring of the waters. On the eleventh day of the bright half of the lunar month, *Cártica*, he is awakened, and rises from his sleep of four months.

The allusion will be made perfectly clear, when it is known that water is considered as one of the forms of VISHNU.

The water, rising till it covers the winding mazes of the river's course, is personified by VISHNU sleeping upon the serpent *Sésha*, whose hundred heads are the numerous channels which discharge the waters into the sea. As long as it continues to rise, he sleeps on one side. When the inundation, having risen to its height, begins to subside, he turns on the other side. When the waters have run off, and the winding banks of the river are completely cleared of the swoln waters of the inundation, he



Egyptian Hieroglyphics.

is said to have arisen from his sleep, being invoked, and awakened with this *Mantra*, or incantation.

"The clouds are dispersed, the full moon will ap-
"pear in perfect brightness, and I come in hope of
"acquiring purity, to offer the fresh flowers of the
"season; awake from thy long slumber, awake
"Lord of all Worlds."

Let us compare the *Hindu* legend with the *Egyptian* hieroglyphic, and I think no doubt can remain of the identity of HORUS and VISHNU, or HERI; and if this position be admitted, we shall find ourselves in possession of the Key to the *Egyptian, Grecian,* and *Roman* mythology.

Of the DURGA' PU'JA'.

The Abbé PLUCHE mentions an *Egyptian* hieroglyphic from the *Isiac* table. HORUS, armed with an arrow, is slaying a river horse, or *Hippopotamos*, which is surrounded with the leaves of the Lotos, and other aquatic plants. He says, "By this mon-"ster, which dwells in the *Nile*, and comes out of "it to lay waste and devour whatever it meets "with, we can understand nothing but the inun-"dation." HORUS is the same with HERI or VISHNU. If the *Saivas* admitted in this country a similar victory over the inundation, they would substitute SÍVA, or his consort, for the *Vaishnava* symbol HORUS.

The sphinx, an emblem of the Sun's passage through LEO and VIRGO, would suggest the idea of decorating CA'LÍ, like the armed PALLAS, as VIRGO, attended by her *Sinh*, or Lion, who is SÍVA himself in that form; and they ascribe to her a victory over the monster *Mahish A'súra*, a giant, with the head of a buffalo: this animal delights in water; and, when he comes out of it, is as destruc-

tive, by laying waste and devouring the harvest, as the *Hippopotamos;* the latter animal not being a native of *Hindostan,* it was natural to supply its place with one which had similar characteristics. If the *Hindu* religion was brought from *Egypt* into *India,* the importers of it would see the same phenomenon of the annual rising of the river; but they would observe, that in this country it was accompanied with heavy rains, thunder, lightning, and storms of wind, an apparent war of the elements. Hence the buffalo-headed symbol of the inundation was erected into a giant, at the head of a vast army, warring against the Gods: the novelty of these phenomena, to the first comers, would suggest to them this poetical personification. The title borne by CA'LÍ, in this character, is DURGA', or rather DURGATI NA'S'INÍ, the remover of difficulties; as she is a form of CA'LÍ, she has the same bloody rites.

The Abbé mentions the *Canopus,* as a jar or pitcher of water, intended to make the people acquainted with the exact progress and increase of the inundation: he adds, that they used to mark these jars with the figure T, or a small cross ☩ to express the increase and swelling of the river. *Canob* is the *Egyptian* word, which is rendered *Canopos* by the *Greeks;* the information, which this seems intended to convey, was so particularly necessary to the *Egyptians,* that it is no wonder it should, in course of time, cease to be considered as a mere sign, and acquire a place amongst the Deities themselves. The word *Canob,* by the analogy of the *Sanscrit* language, becomes *Cumbh,* which signifies a jar or vase: it gives name, in the *Hindu Zodiac,* to the sign *Aquarius.* This *Cumbh, G'hat'a,* or jar, is the principal object in the celebration of the *Hindu* worship. It is considered as almost the

Deity itself. It cannot be dispensed with; while the image of DURGA' may be omitted entirely. The *Vaishnavas* use the sacred jar, which they mark with several crosses in this manner . The *Saivas* mark the jar with a double triangle, thus : one triangle signifies SÍVA, uniting in himself the three great attributes: the other triangle is his consort, with the same character and attributes. The worshippers of the *Sacti*, or female principle, mark the jar with this figure . These marks are called *jantra:* they are, in fact, hieroglyphic characters; and there is a vast variety of them. The above are only mentioned here, because of their use in this *Pújá*, and as they distinguish three principal sects of the *Hindus*.

This coincidence between the *Hindu* ceremonies and the *Egyptian* figures, is remarkably striking. They appear to me to explain each other: and we can scarce doubt of the identity, when we consider that this ceremony takes place at the autumnal equinox, at which time the season of storms and inundation is over, and they are supposed to have been subdued, during the Sun's passage through the signs *Leo* and *Virgo*.

On the HU'LÍ *of the* HINDUS, *and the* HILARIA *of the* ROMANS.

The *Romans* celebrated the *Hilaria* at the vernal Equinox, in honour of the Mother of the Gods. It was a festival which was continued for several days, with great display of pomp and rejoicing: it began the eighth day before the *Calends* of *April*,

or the 25th of *March;* the statue of CYBELE was carried about in procession, and the attending crowds assumed to themselves whatever rank, character, or dress, their fancy led them to prefer: it was a kind of masquerade, full of mirth and frolic. In fact, it was the Earth, under the name of CYBELE, which was worshipped at the commencement of that genial season, when she receives from the Sun those vivyfying rays, which are so adapted to the production of fruits and flowers. Let this ceremony be compared with the *Hindu* celebration of the *Húlí*, at the same period of the year. The epithet of *Purple* is constantly given to the spring by the *Roman* poets, in allusion to the blossoms, which nature, as it were in sport, scatters over the Earth with such variety and profusion. The *Hindus* design the same idea in the purple powder *(Abír)*, which they throw about at each other with so much sportive pleasantry: the objects of worship with the *Hindus* are the Earth and Fire; that genial warmth, which pervades all nature at that period of the year: the licentiousness of the songs and dances, at this season, was intended to express the effects of that warmth on all animated objects.

The *Hindus* have likewise their masquerading processions, in which Gods and Goddesses, Rajas and Ranis, are represented; and the ceremonies are concluded, by burning the past or deceased year, and welcoming the renovation of nature.

Of the VA'STU PU'JA' *of the* HINDUS, *and the* VESTA *of the* ROMANS.

On the last day of *Paush*, the *Hindus* make sweetmeats, with *Til*, or *sesamum:* it is therefore called *Tiliasancránt*. It is the day when landholders worship the Earth and Fire. The sect of SÍVA sacrifice a sheep to the Earth; and the *Vaishnavas* offer up

their bloodless oblations to fire. The ceremony is called the *Vástu Pújá*. *Vástu* is the habitable Earth. A great *Rájá* was called VA'STU PURUSH; the expression is used by a raiat to his zemindar, as a title of the highest respect. I think, that, in the *name* of the ceremony, and in the objects of worship, may be traced the Goddess VESTA of the *Romans*: the Goddess of Nature, under whose name they worshipped the Earth and Fire.

The Fable of BÍR BHADR, *invented by the* S'AIVAS *to exalt their* OPINIONS *and* SECT.

This fable, I conceive, is descriptive of an attempt to abolish the worship of the male and female symbols; of the struggles of the contending sects; and (as it is the nature of fanaticism to increase and spread in proportion to the opposition raised against it) of the final establishment and extension of that worship. It seems a story invented by the *Saivas*, to shew the imbecility of their oponents, and to exalt their own doctrines.

DACSHA celebrated a *yajnya*, to which he invited all the *Dévatás*, except his son-in-law, SÍVA. His consort, the Goddess, being hurt at this exclusion, went into the assembly, and remonstrated, but in vain; she expired with vexation upon the spot. SÍVA, upon hearing this, throws his *Jetá*, or plaited hair, upon the ground, and from that produces BÍR BHADR, a furious being, armed with a trident, who immediately attacks, and disperses the whole assembly; puts a stop to the sacrifice; and cuts off the head of DACSHA. SÍVA took up the body of his deceased consort, and placing it upon his head, in a fit of madness, danced up and down the Earth, threatening all things with destruction. VISHNU, at the request of the other *Dévatás*, with his *Chacrá*, cut the body of SATÍ into fifty one pieces, which SÍVA,

in his frantic dancing, scattered in different parts of the Earth. Each place where a part fell became a place of worship, dedicated to the female Power: and the frenzy of SÍVA subsiding, he ordained, that the LINGA should likewise be worshipped at each of those places; and DACSHA, on condition of embracing the doctrine of SÍVA, was restored to life, dedegraded with the head of a goat instead of his own. I should imagine that the furious BÍR BHADR, produced by SÍVA, was a vast body of fanatics, raised by the *Brahmens* of that sect, who might, at that time, have been both popular and powerful; probably this was a vast body of fanatic *Sannyasis*, interested in the dispute by personal motives, as well as instigated by their *Brahmens.*

The attempt to abolish the worship failed, and served to establish it firmer, and extend it farther than ever. The Gods themselves are represented as the actors, instead of their votaries; but it may allude to some commotion that really happened. Probably the heads of those sects, which had introduced this symbolic worship, were alarmed at the progress of it, and at the effects produced on the morals of the people: they wished to abolish it when it had taken root too deeply; and as they had introduced it, SÍVA is described as the son-in-law, and SATÍ as the daughter of DACSHA.

On the VENERATION *paid to* KINE.

This superstition appears to me to have arisen from the humanity of the first legislators, to prevent the horrid practices which were prevalent in the ancient world, and which exist to this day in *Abyssinia:* I mean the savage custom of devouring the flesh of the living animal, torn from it while roaring with anguish, and expiring in protracted agony. To eradicate a practice so detestable, and dreadfully cruel, they might

consider difficult, if not impossible in the then existing state of society, without interweaving the preservation of so useful an animal, with the indispensable duties of religion. They therefore rendered it sacred.

The Bull was made the emblem of Justice, the vehicle of S'IVA; and the Cow, a form of BHA'VANI, and the emblem of the Earth. A mere civil institute, might have been deemed inadequate to work the intended reform. But an indispensable duty, enforced by all the sacred obligations of religion, was thought more likely to produce the effect; as having more hold upon the human mind: especially when that religion was promulgated as the immediate revelation of the Deity.

Mankind naturally rush into contrary extremes under the impulse of religious zeal; and the animal, which had been the subject of voracious cruelty, became the object of religious veneration and worship.

When these animals were thus exalted, the slaughter of them was considered as a sacrilege: it was a natural consequence. But superstition did not stop there; the dung came to be considered as pure; the *Hindus* use it diluted with water, and mixed with earth, to purify their shops and houses: the spot, on which they eat, is plastered with this composition; and the idols are purified by a mixture of the dung, urine, milk, curds, and butter of the animal; nay, a small quantity of the urine is daily sipped by some: every part of the animal is dedicated to some divinity with appropriate invocations; and what originated in policy, has ended in gross superstition. The horrid repasts of the antient world are frequently alluded to. It is said of ORPHEUS, *Cædibus et victu fædo deterruit*: notwithstanding which, the *Grecians* are reproached by JULIUS FIRMICUS with perpetrating these horrid repasts, as part of the ceremony

in the *Dionysiacs*—Vivum *laniant dentibus taurum, crudeles epulas annuis commemorationibus excitantes*;—and again—*Illic, in orgiis Bacchi, inter ebrias puellas et vinolentos senes, cum Scelerum Pompa procederet, alter nigro amictu teter*; *alter, ostenso angue terribilis*; *alter, cruentus ore, dum* viva *Pecoris* membra *discerpit. Jul. Firmic. De errore profanarum Religionum.* This horrid custom was very antient; and I suppose, with Mr. BRUCE, that the prohibitions in Deuteronomy were particularly levelled at this execrable practice; and this evidence, I think, strongly corroborates my supposition. The *Egyptians* seem to have extended this policy to sheep and goats: for the ram was worshipped at the vernal equinox, and the goat was worshipped at *Memphis*.

REMARKS ON THE FOREGOING ESSAY.

BY H. T. COLEBROOKE, Esq.

SEVERAL points, relative to the religious ceremonies of the *Hindus*, and their mythology, which the preceeding Essay has touched upon, seem to require elucidation, independently of the purpose, for which they have been there mentioned. The following remarks are therefore subjoined, with a view of adding some information on those subjects.

P. 68. The eight *S'actis* or energies of as many Deities, are also called *Mátris* or mothers. They are named BRA'HMI, &c. because they issued from the bodies of BRA'HMA and the other gods respectively *.

* RAYA MUCUTA on the *Ameracosha*.

In some places, they are thus enumerated: BRA'HMI', MA'HE'S'WARI', AINDRI', VA'RA'HI', VAISHN'AVI', CAUMA'RI', CHA'MUN'DA', and CHARCHICA'. However, some authorities reduce the number to seven; omiting CHA'MUN'DA' and CHARCHICA'; but inserting CAUVE'RI'.

PRAYERS are addressed to the *Mátrìs* on various occasions; especially in the *Cavachas*, or defensive incantations. I shall cite two by way of example; and subjoin extracts from the *Márcań'd'èya purán'a*, descriptive of these goddesses.

"MAY BRAHMA'NI', conferring the benefit of all benedictions, protect me on the east; and NA'RA'YAN'I', on the south-east, for the sake of realising every wish MA'HE'S'WARI' too, on the south, rendering every thing auspicious; CHA'-MUN'DA', on the south-east, discomfiting all enemies; and, on the west, CAUMA'RI', armed with her lance and slayer of foes: on the north-west, APA-RA'JITA', the beauteous giver of Victory; on the north, VA'RA'HI', granter of boons; and on the north-east, NA'RASINHI', the banisher of terrour. May these mothers, being eight Deities and active powers, defend me."

Another incantation simply enumerates the same eight goddesses; and proceeds thus: "may these and all *Mátrìs* guard me with their respective weapons, on all quarters and on every point.

In the *Dévi máhátmya*, the assembling of the *Mátrìs* to combat the demons is thus described. 'The energy of each god, exactly like him, with the same form, the same decoration, and the same vehicle, came to fight against the demons. The *S'acti* of BRAHMA', girt with a white cord and bearing a hollow gourd, arrived on a car yoked with swans: her

title is BRAHMA'NI'. MA'HE'S'WARI' came riding on a bull, and bearing trident, with a vast serpent for a ring, and a crescent for a gem. CAUMA'RI' bearing a lance in her hand, and riding on a peacock, being *Ambicá* in the form of CA'RTICE'YA, came to make war on the children of DITI. The *S'acti* named VAISHN'AVI' also arrived, sitting on an eagle, and bearing a conch, a discus, a club, a bow, and a sword, in her several hands. The energy of HARI, who assumed the unrivalled form of the holy boar, likewise came there, assuming the body of VA'RA'HI'. NA'RASINHI' too arrived there embodied in a form precisely similar to that of NRĬSINHA, with an erect mane, reaching to the host of stars. AINDRI' came, bearing the thunderbolt in her hand, and riding on the king of elephants, and in every respect like INDRA, with a hundred eyes. Lastly, came the dreadful energy named CHANDICA', who sprung from the body of DE'VI', horrible, howling like a hundred shakals: she, surnamed, APARA'JITA', the unconquered goddess, thus addressed IS'A'NA, whose head is encircled with his dusky braided locks.'

The story, which is too long for insertion in this place, closes with these words: 'Thus did the wrathful host of *Mátrĭs* slay the demons.'

In the *Uttara Calpa* of the same *Purán'a*, the *Mátrĭs are thus described*, 'CHA'MUN'D'A' standing on a corpse, VA'RA'HI sitting on a buffalo, AINDRI' mounted on an elephant, VAISHN'AVI' borne by an eagle, MA'HE'S'WARI' riding on a bull, CAUMA'RI' conveyed by a peacock, BRA'HMI carried by a swan, and APARA'JITA' revered by the universe, are all *Mátrĭs* endowed with every faculty.'

It may be proper to notice, that CHA'MUN'DA CHARCHICA', and CHAN'DICA', are all forms of PA'RVATI'. According to one legend. CHA'-

MUN'DA' sprung from the frown of PA'RVATÍ, to slay the demons CHAN'DA and MUN'DA. According to another, the mild portion of PA'RVATÍ issued from her side, leaving the wrathful portion, which constitutes CA'LÍ or the black goddess.

CAUVE'RÍ is the energy of CUVE'RA, the deformed god of Riches. NA'RA'YAN'Í, mentioned by Mr. PATERSON, and also in the prayers or incantations above cited, is the same with VAISHN'AVÍ.

P. 69. ANNA-PU'RN'A' DE'VÍ, or the goddess who fills with food, is the beneficent form of BHAVA'NÍ; and very similar to LACSHMÍ or the goddess of abundance, though not the same Deity. She is described, and her worship is inculcated, in some of the *Tantras*; but not in the *Purán'as*, so far as I can learn, except in the *Síva* purán'a; and the legends, concerning her, are not numerous. She has a temple at *Benares*, situated near that of VIS'WE'S'WARA.

In addition to Mr. PATERSON's quotations, it may be observed, that SILIUS ITALICUS (*Punic.* 8, v. 28, 184) makes the nymph, who was worshipped in *Italy*, to have been ANNA, the sister of DIDO: and MACROBIUS says (*Sat.* 1, c. 12), sacrifices, both publick and private, were offered by the *Romans* to ANNA PERENNA; *ut annare, perennareque, commodè liceat.*

Perhaps ANNA-PU'RN'A' may bear affinity to ANNONA. Certainly this term, either in its literal sense, or as a personification (SPENCE's Polymetis, dial. 10), is nearer to the *Sanscrit anna*, food; than to its supposed root *annus*, a year.

P. 74. The *Jala yátrá*, here mentioned, is not universally or generally celebrated; and accordingly it is not noticed in various treatises on the calendar

of *Hindu* feasts and holidays. The *Vishn'u d'hermóttara*, cited in the *Madana ratna*, does indeed direct, that, on this day (11th *Bhádra* in the bright fortnight), a jar of water, with certain other specified articles, be given to a priest; and the *Bhawishya* requires, that JANA'RDANA, or VISHN'U, be worshipped with appropriate prayers: but the ceremony, to which Mr. PATERSON alludes, must be a different one: and, if I am rightly informed, a festival, which bears the designation mentioned by him *(Jala yátrá)*, is celebrated at the temple of JAGANNA'T'HA, and perhaps at some other places.

P. 77. At most festivals, no less than at that of DURGA', a jar of water is placed, and consecrated by prayers, invoking the presence of the deity or deities who are on that occasion worshipped: adding also invocations to *Gangá* and the other holy rivers. When the celebration of the festival is completed, the holy water, contained in the jar, is employed by the priests to sprinkle or to bathe the person, who commands and defrays the celebration.

Various *yantras*, or mystical figures and marks, are appropriated to the several Deities, and to the different titles of each Deity. Such figures are usually delineated on the spot, where a consecrated jar is to be placed. These *yantras*, which are supposed by superstitious *Hindus* to possess occult powers, are taught in great detail by the *Tantras* or *A'gama Sástra*: but seem to be unknown to the *Védas* and *Puránas*.

P. 78. The *Hólica* is said, in some *Purána*, to have been instituted by the king AMBARÍSHA (the great grandson of BHAGÍRAT'HA), according to instructions from NA'REDA, for the purpose of counteracting a female demon named D'HUN'D'HA', whose

practice it was to destroy children. In its origin, this festival does not seem to have had any connexion with the vernal equinox, nor with the close of the year; but with the close of winter and the beginning of *Vasanta*, or the *Indian* spring. However, it now corresponds with the end of the lunar year, and the approach of the equinox.

P. 79. The *Tila sancránti*, or day on which the sun passes from *Dhanush* into the sign *Macara*, is the festival of the winter solstice. It must have been so fixed, at the period when the *Indian* calendar for the solar year was reformed, and the origin of the ecliptick was referred to the first degree of *Mésha*. It derives its name from the ordained use of *tila* or seed of *Indian* sesamum, six different ways, in food, ablutions, gifts, and offerings: or, according to a vulgar explanation, it is so called, because thenceforward the days increase at the rate of a *tila* or grain of sesamum in each day. A similar festival is regulated by the lunar month; and has several times shifted its day. It is kept on the twelfth of the bright half of *Mágha*, according to the *Vishn'u d'hermóttara*; and on the eleventh, according to other authorities. Probably it once belonged to the first day of the lunar *Mágha*.

The *Vástu pújá*, as an annual ceremony, is peculiar to *D'hácá* and districts contiguous to that province: but is not practised in the western parts of *Bengal*; and, so far as I am informed, is altogether unknown in other parts of *India*. The word *Vástu* signifies, not the habitable earth in general, but the site of a house or other edifices in particular.

IV.

EXTRACTS *from the* تهذيب المنطق, *or* "ESSENCE *of* LOGIC," *proposed as a small* SUPPLEMENT *to* Arabic *and* Persian Grammar; *and with a view to elucidate certain Points connected with* Oriental Literature.

BY FRANCIS BALFOUR, ESQ.

INTRODUCTION.

ALTHOUGH the works of ARISTOTLE were translated into *Arabic* many centuries ago, and there be no doubt that the system of logic generally ascribed to him constitutes, at this time, the logic of all the nations of *Asia* who possess the Mahommedan faith, yet I do not find that this point has been directly confirmed by translations from the *Arabic* or *Persian* into the languages of *Europe*. At least none that I know of have appeared in *India*.

The following extracts taken from a *Persian* translation of the *Tehzeeb ul Mantik*, or Essence of Logic, an Arabic treatise of considerable repute, seem to place this question beyond doubt, by their close coincidence in every point with the system referred to ARISTOTLE.

To the logical system of this wonderful genius, modern philosophers of distinguished eminence, and amongst these, Lord KAIMES, have not hesitated to impute the blame of retarding the progress of science and improvement in *Europe* for two thousand years, by holding the reasoning faculty constrained and cramped by the fetters of syllogism.

From some of the extracts contained in this paper, it will appear, 1st. That the mode of reasoning by *Induction*, illustrated and improved by the great

Lord VERULAM, in his *Organum Novum*; and generally considered as the cause of the rapid progress of science in later times, was perfectly known to ARISTOTLE, and was distinctly delineated by him, as a method of investigation that leads to certainty or truth *; and 2dly, that ARISTOTLE was likewise perfectly acquainted, not merely with the form of Induction, but with the proper materials to be employed in carrying it on—Facts and Experiments †.

We are therefore led to infer, that all the blame of confining the human mind for so long a time in chains by the forms of syllogism, cannot be fairly imputed to ARISTOTLE; nor all the merit of enlarging it and setting it free, ascribed to Lord VERULAM. The vast extent of ARISTOTLE's learning and knowledge, and the singular strength and penetration of his mind having, naturally, encouraged him to undertake a complete analysis of all its powers, the doctrine of syllogism became, of course, a constituent and necessary part of his comprehensive system. And if succeeding philosophers attracted by its ingenuity and beauty, have deserted the substance in pursuit of the shadow, the pernicious consequences of this delusion, cannot, justly, be referred to him ‡.

---

* Vide the Section of Induction.

† Vide the Section of the matter of Syllogism.

‡ On the 6th of *July* 1803, when this paper was delivered to the *Asiatick* Society, I had heard of Dr. GILLIES's admirable exposition of the *ethics* and *politics* of ARISTOTLE; but had never been fortunate enough to meet with it, or to know any thing of his sentiments on this question, until the 12th of *November*, when the accidental sale of a private library gave me an opportunity of purchasing it. From the perusal of this wonderful book, I have now the satisfaction to discover, that the conjectures which I had been led to draw from these scanty materials, are completely confirmed by the opinion of an author, who is probably better qualified than any preceding commentator on ARISTOTLE's works to decide on this subject.—Vide GILLIES's ARISTOTLE, Vol. I. page 68. 76. 78, 79, &c.

The discussion of these points, being in some degree curious, and not altogether unconnected with the pursuit of Oriental literature, may not be unacceptable to this Society. But, taken in another view, I conceive that they may become in some respect useful. A scientific analysis of the reasoning faculty, delineating all its powers and operations, and affixing to each an appropriated form of expression, gives, naturally, to those who acquire it, a mode of thinking that is accurate and profound; and establishes amongst the learned a peculiar style, more precise and enlightened than that which is employed by the multitude in the common transactions of life.

By assisting the Oriental student to attain this degree of improvement, I have flattered myself that these extracts may become useful. This is the motive that first induced me to take the trouble of translating them into English; and they are now submitted to the Society, not as a part of metaphysical learning, but as a more advanced stage of grammar and syntax; and therefore as a *Supplement* that may contribute to form a more complete system of *Arabic* and *Persian Philology*. Whilst grammar and syntax teach only generally the various *forms* of words and sentences, logic, proceeding further, may be considered as the art of selecting words and arranging sentences into all the forms that are required, for expressing with precision, the different steps and operations of the reasoning faculty; and therefore as the *highest* and *most important* degree of classical improvement.

بسم الله الرحمن الرحيم

منتخب تهذيب المنطق

تفصيل ضمن

باب اول در تعريف مشتمل بر چهار فصل است

فصل اول در دلالت
فصل دوم در مفهوم
فصل سيوم در كليات خمسه
فصل چهارم در تعريفات

باب دوم در حجت مشتمل بر پنج فصل است

فصل اول در قضيه
فصل دوم در قياس
فصل سيوم در استقرا
فصل چهارم در تمثيل
فصل پنجم در تقسيم قياس بحسب ماده

In the Name of God, the Compassionate, the Merciful!

EXTRACTS FROM THE TEHZEEB UL MANTIK.

THE CONTENTS.

PART I. Of Definition.
Sect. I. Of Expression.
II. Of Ideas formed by the Intellect.
III. Of the Five Universal Ideas called Predicables.
IV. Of Different kinds of Definitions.

PART II. Of Demonstration.
Sect. I. Of Propositions.
II. Of Syllogism.
III. Of Induction.
IV. Of Analogy.
V. Of the division of Syllogisms according to their Matter.

فصل در مقدمه

مقدمه در لغت پیش کرده شده و در اصطلاح
مقدمه ان چیز است که موقوف است بر او
شروع در هر علم بطریق بنای و شناسای
و لهذا عادت اهل تصانیف بر ان جاري
شده که پیش از شروع اول فصلی جدا
میارند و انرا مقدمه نا مند و در ان سه
چیز مذکور میشود رسم العلم یعنی تعریف
علم غایت العلم یعني قایده علم موضوع
العلم یعنی انچه دران علم از عوارض ذاتی
او بحث کنند چنانچه بدن انسان در علم
طب و کلمه و کلام در علم نحو و معرف
وحجت در علم منطق

پس بدانکه علم یعني صورت حاصل در عقل
از دو حال بیرون نیست فقط حصول صورت
شي است در عقل یا حصول صورت شي
در عقل باذعان یعني ایقاع نسبت است
اول تصور است و ثاني تصدیقي اما
تصور خواه درک امر متعدد ده باشد
چنانچه تصور زید و عمر یادرک چیزي
باشد با نسبت غیر تامه چنانچه تصور غلام
زید یا با نسبت تامه باشد لیکن جزییه
نباشد انشاییه باشد چنانچه تصور اضرب
یا نسبت جزییه باشد لیکن غیر اذعانی
چنانچه در صورت و هم و شک

THE PREFACE.

A PREFACE in common language is that which is put first. Technically it is that which is necessary to the explanation of any science with clearness and perspicuity. It has therefore become an established custom with authors, previously to the introduction of their subject, to appropriate the first chapter to this purpose, calling it a Preface. Under this head are comprehended three different articles; 1st, The *nature* or description of science; 2d, The *end* or use of the science; 3d, The *subject* of the science; or those of its essential parts that are to be investigated or considered; such as the human body in medicine, words and sentences in grammar, and *definition* and *demonstration* in logic.

Accordingly let it be understood, that knowledge, or images acquired by the mind, is of two kinds; either the simple impression of an object, or the production of an image by reflection, that is, by relation. The first is perception, the second intellection or judgment.

Perception is either the idea of a single object, such as the idea of ZEID; or of several objects, such as the idea of ZEID and OMAR. Or it may be the idea of an object standing in a relation that is imperfect; for example, the slave of ZEID; or in a relation that is perfect, in which case it must not be connected with a predicate, but without one, such as the *ezrcb*, (i. e.) *beat thou.* It may also be in construction with a predicate, provided that it imply no conclusion; as in the idea of conjecture and doubt.

اما تصدیق چنانچه اعتقاد اوردن با اینمعنی که زید قایم است یا اعتقاد اوردن باینمعنی که زید قایم نیست

و منقسم میشود این هر دو بضرورت یعنی بالبداهت بي قیام دلیل بطرف ضروري یعنی بدهی و اکتساب بالنظر یعنی نظري پس چهار قسمت حاصل میشود تصور بدیهي تصور نظري یعنی

معلوم تصوري و

مجهول تصوري

تصدیق بدیهي و تصدیق نظري یعنی

معلوم تصدیقي و

مجهول تصدیقي

اما معلوم تصوري چنانچه تصور حرارت و برود

و مجهول تصوري چنانچه تصور حقیقت ملک و جن

و معلوم تصدیقی چنانچه تصدیق اینمعني که افتاب روشن است

و مجهول تصدیقی چنانچه اینمعني که عالم حادث است و صانع موجود است

و نظر در اصطلاح ایشان ملاحظه معقول است براي تحصیل مجهول یعنی ملاحظه معلوم تصوري است و معلوم تصدیقي براي اکتساب مجهول تصوري و مجهول تصدیقي و کاهی واقعی میشود در نظر مذکور خطا

Intellection or judgment consists in giving assent to some proposition, such as "ZEID is standing," or "ZEID is not standing."

Each of those, namely, perception and intellection, are necessarily divided into two kinds, viz. Those acquired by intuition without any previous argument or proof, and therefore called intuitive; and those acquired by investigation and reasoning, and therefore called demonstrable. We have therefore established four distinctions, viz. perceptions intuitive, and perceptions demonstrable: or in other words,

1. The known perceptible.
2. The unknown perceptible;

and intellection or truth intuitive, and intellection or truth demonstrable; in other words,

1. The known demonstrable.
2. The unknown demonstrable.

The idea of heat and cold, is an example of the known perceptible.

The idea of angels and genii, is an example of the unknown perceptible.

The proposition that the sun shines, is an example of the known demonstrable; and

The proposition that the world was created, and that there is a Creator, is an example of the unknown demonstrable.

In the language of logicians, examination or inspection is the contemplation of the thing known to obtain a knowledge of the thing unknown; that is to say, the contemplation of the known perceptible, and the known demonstrable to obtain a knowledge of the unknown perceptible and unknown demonstrable; and as mistakes often happen in this investi-

پس ناگزیر است از قانونی یعنی قاعده
کلی که نگاهدارد ذهن‌را از خطا در فکر
وان قانون منطق است

پس ازین تمهید رسم العلم یعنی علم
منطق قاعده کلی است که در پناه میدارد
ذهن‌را از خطا در فکر مفهوم شد

و فکر در اصطلاح ایشان ترتیب دادن
امری چند معلوم است تا برساند بطرف
مجهول و ضمنا غایت علم نیز و اضح و
منکشف گردید

باقی ماند موضوع العلم و ان معلوم
تصوری است و معلوم تصدیقی با این
حیثیت که موصل است بطرف مجهول تصوری
و مجهول تصدیقی اول‌را معرف گویند و
ثانی‌را حجت اما معرف چنانچه تصور
حیوان ناطق که موصل است بطرف انسان
وحجت چنانچه العالم متغیر و کل متغیر
حادث که موصل است بطرف تصدیق
اینمعنی که عالم حادث است

باب اول در تعریف

فصل اول در دلالت

دلالت در اصطلاح ایشان بودن شی است
باین حیثیت که واجب شود از علم ان علم
دیگر اول‌را دال گویند و ثانی‌را مدلول و دال
اگر لفظ است دلالت لفظی گویند و اگر غیر
لفظ است دلالت غیر لفظی و جمله بر شش
قسم منقسم میشود دلالت لفظی وضعی

gation, there is indispensibly required some general rule to preserve the mind from falling into an error in the process of thinking. This rule is logic.

From this discussion, therefore, it appears that the *Nature* of logic may be defined " A general rule which guards the mind against errors in thinking."

But in the language of logicians, thinking is an arrangement of certain things known, to obtain a knowlege of things unknown. Consequently the *end* or use of logic likewise becomes obvious and manifest.

There now remains to be examined, only the *subject* of logic ; and this is the known perceptible and the known demonstrable, in such a form as to lead to the unknown perceptible and unknown demonstrable. The first of these is called *definition* ; the second *demonstration* or proof. " The idea of an animal endowed with the faculty of speech," leading to the idea of man, is an example of definition. The proposition, " The world is liable to change, and every thing liable to change is created," leading to the conclusion " that the world was created," exhibits an example of demonstration.

PART I. OF DEFINITION.

SECT. I. OF EXPRESSION.

EXPRESSION in the technical language of logicians, is the existence of a thing in such general use, that there necessarily or irresistibly arises from the knowledge of that thing the knowledge of another thing. The first they call the *Sign*, the second the *thing signified*. If the sign be a word, they call it verbal expression ; and if not a word, they call it expression not verbal ; and these two together comprehend six different distinctions ; 1. Assigned expression verbal ; 2. Assigned expression not verbal ;

دلالت غير لفظي و ضعي دلالت لفظي
طبعي دلالت غير لفظي طبعي دلالت
لفظي عقلي دلالت غير عقلي اما دلالت
لفظي و ضعي چنانچه دلالت لفظ زيد بر
ذات ما تشخص و دلالت غير لفظي و ضعي
چنانچه دلالت دوال اربع يعني خط عقد
نصب اشارت بر مدلول خود و دلالت لفظي
طبعي چنانچه دلالت اخ اخ بر وجع صدر
و دلالت غير لفظي طبعي چنانچه سرعت
نبض بر حمي يعني تپ و دلالت لفظي
عقلي چنانچه دلالت لفظ دير كه مسموع
است از پس ديوار بر وجود لافظ و دلالت
غير لفظي عقلي چنانچه دلالت دخان بر
وجود نار

و در اينجا از هر كونه دلالتها محض
مقصود دلالت لفظي و ضعي است واين
بر سه كونه است مطابقت تضمن و التزام چراكه
دلالت بر موضوع له يعني مدلول خود از
سه حال بيرون نيست يا بر تمام موضوع له
است چنانچه دلالت لفظ انسان بر حيوان
ناطق يا بر جز و موضوع له است چنانچه
دلالت لفظ انسان بر حيوان يا بر خارج
موضوع له است چنانچه دلالت لفظ انسان
بر قابل علم و قابل صنعت الكتابت اول
مطابقت است و ثاني تضمن و ثالث التزام

3. Natural expression verbal; 4. Natural expression not verbal; 5. Intellectual expression verbal; 6. Intellectual expression not verbal. The word *Zeid* appropriated to an individual, is an example of assigned expression verbal. The four signs, a line, a knot, a land mark, a signal, are examples of assigned expression not verbal. The exclamation oh! oh! from a pain in the breast, is an example of natural expression verbal. The quickness of the pulse, indicating fever, is an example of natural expression not verbal. The word *Deiz* heard from behind a wall, and implying the existence of a speaker, is an example of intellectual expression verbal; and the sign of smoke, implying the existence of fire, is an example of intellectual expression not verbal.

But of all these different modes of expression, we mean, at present, to consider only that of verbal expression assigned, which is of three kinds; 1. That by conformity; 2. That by implication; and 3. That by association. Thus a verbal expression assigned, may denote its object by corresponding with the whole of its character; as the word *insaun*, man, denotes a living being endowed with speech. By expressing a portion of its object, as the word *insaun* (i. e.) man, implies an animal. By acting without or beyond its object, as the word *insaun* (i. e.) man, implies a being capable of science, and the art of writing. The first is agreement or conformity, the second implication, the third association.

ليكن در دلالت التزاميه لزوم ضرور است كه
عقلا باشد چنانچه تصور بصر نسبت با عمي
يا عرفا چنانچه تصور جود نسبت بحاتم

و ديگر اينكه براي دلالت تضمن و التزام
ضرور است دلالت مطابقت بر خلاف مطابقت
كه او با اينها محتاج نيست پس جاييكه
دلالت تضمن و التزام خواهد بود دلالت
مطابقت ضرور است و جاييكه دلالت مطابقت
است تضمن و التزام ضرور نيست و لفظ دال
با لمطابقت اگر جز دارد و جزان دال است
بر جزو معنى پس ان لفظ مركب است مر
كب يا تام است يعني مخاطبرا صحت و
سكوت مي بخشد يا ناقص و تام بردو
گونه است خبر چنانچه زيد قايم و انشا
چنانچه اضرب و مركب ناقص بر پنج گونه
است تركيب اضافى چنانچه غلام زيد و تر
كيب تو صيفى چنانچه رجل فاضل و
تركيب تقيدي چنانچه الر جل و في
الدار و تركيب تعدادي چنانچه خمسة
عشر و تركيب امتزاجي چنانچه بعلبك كه در
اصل نام بت و بادشاه است و بعد از ان
شهري بدين اسم مسموم شده

But in the case of expression by association, the association must either be intellectual—inferred, as for example, the idea of light associated with one that is blind; or founded on real knowledge, such as the idea of generosity connected with a Prince.

And it is further to be remembered, that conformable expression is necessary to implication and association, whilst these, on the contrary, are *not* required for conformable expression; to that wherever implication and association are expressed, there must also exist conformable expression; but where these is conformable expression it does not necessarily follow that these must be also implication or association.

If the terms of the conformable expression consist of parts, and these parts be conformable to portions of the sense, then that term is a compounded word; and the compound is either perfect, giving to the hearer complete satisfaction; or imperfect. Perfect compounds are of two kinds, *viz.* predicative, such as "Zeid is standing;" or *insaun*, such as *ezreb*, beat thou. Imperfect compounds are of five kinds, 1st, The composition of relation such as "the slave of Zeid;" 2nd, The composition of qualification, such as "an excellent man;" 3rd, The composition of confirmation, such as "the man in the house; 4th, The composition of numbers, such as *Hemseh Usher*; and 5th, The composition of habit, use, custom, such as "*Balbec*," which originally is the name of a devil or king, and has now become the name of a city.

و اگر چنین نیست یعنی جزو لفظ دال
برجزو معنی نیست آن را مفرد گویند و مفرد
بر سه گونه است اگر معنی او مستقل است
و بهیت خود دلالت میکند از یک زمانه از
ازمنه ثلثه پس آن کلمه فعل است و اگر
چنین نیست بلکه محض مستقل است پس
اسم است و اگر از هر دو بیرون است یعنی
نه دلالت میکند بر زمانه و نه مستقل است
پس حرف و ادات است

و ازان اسم بر چند گونه است علم متواطی
مشکک مشترک منقول حقیقت مجاز

چراکه از دو حال بیرون نیست معنی او
واحد است یا کثیر اگر واحد است پس مع
التشخص ان عند الواضع علم است
چنانچه لفظ زید و عمرو و غیرهما

وبدون تشخص متواطی است اگر مساوی
باشد افراد آن چنانچه غنم و بقر

ومشکک است اگر متفاوت باشد باولیت و
ولویت چنانچه و جود نسبت بواجب تعالی
و ممکن

و اگر چنین نیست یعنی کثیر است پس
اگر وضع کرده شده است برای هر واحد
برابر چنانچه لفظ عین که موضوع است
برای ذات و زر و چشمه و چشم پس مشترک
است

و اگر برابر نیست بلکه اول برای یک
معنی موضوع شده بعد ازان بطرف معنی

But if the terms of conformable expression be not of this description; that is to say, if portions of the expression be not conformable to portions of the sense, it is then called simple or uncompounded; which is of three kinds; 1st, When the sense is affirmative, and at the same time expresses in its form one of the three tenses, it then constitutes that part of the speech called a *verb*. 2. If it do not express time, but merely some object, then it is a *noun*; and 3. If it express neither time nor any particular object, then it is a *particle*.

The noun is of several kinds; 1st. Appellations or proper names; 2nd. Generic names; 3rd. Unlimited or ambiguous terms; 4th. Synonimous terms; 5th. Technical terms; 6th. Literal terms; 7th. Metaphorical terms. 1. As a noun may express one or many, it is either singular, or plural. If it express one with an appropriation to a particular individual, then it is a proper name; such as the names ZEID and OMAR, &c. 2. If it express one, without any appropriation to a particular individual, and all the individuals be equal or alike, then it is a generic name, such as a sheep, a goat, &c. 3. If it be variable with respect to priority or excellence as the word, nature, or existence with regard to the Creator and his creatures, then it is variable or ambiguous; 4. If the noun is common to many objects, and is appropriated to each of these alike, as the word *Aeen* which signifies self, gold, fountain, and the eye; then it is synonimous or equivocal; 5. But if it be not uniformly so, but being first used in one sense, and

دیکر منقول کشه هم در ان مشهور کردیده انرا منقول کویند و نسبت کرده میشود بطرف ناقل و اکر ناقل او عرف عام است منقول عرفی کویند و اکر خاص است اصطلاحی کویند . و اکر شرع است منقول شرعي کویند اکر چنین نیست بلکه در هر دو معنی مستعمل است نسبت باول حقیقت است و نسبت بثاني مجاز است چنانچه لفظ اسد که نسبت بحیوان صایل یعني شیر حقیقت است و نسبت برجل سجاع مجاز است

فصل دوم در دانستن مفهوم

بدانکه غرض منطقي مقصود بالذات از مفهوم است بحث از دلالت و لفاظ محض بالعرض بود که این و اسطه افاده استفاده افتاده است پس بدانکه مفهوم اکر نزدیك بتجویز عقل ممتنع باشد صدق ان بر کثیرین پس جزي است چنانچه زید و اکر چنین نیست یعنی نزدیک بتجویز عقل صدق ان بر کثیرین ممتنع نیست پس کلی است اکر چه ممتنع باشد و چون افراد ان چنانچة شریک الباري یا ممکن معدوم الوجود باشد چنانچه عنقا یا یافته شده باشد واحد فقط مع امکان الغیر چنانچه شمس یا مع امتناع الغیر چنانچه و اجب الوجود یا کثیر باشد افراد

afterwards converted to another, becomes current in its new acceptation, it is then metaphorical, and takes its character from the person who employs it. If the speaker be an illiterate common person, it is called a *vulgar* phrase; if he be a man of science, it is called a *technical* term; and if he belong to the law, it is called a *law* phrase. But if this be not the case, and a word be used indiscriminately in both ways, the first directly applicable to its original object, and the second to that to which it is transferred; such as the word lion, it constitutes, when signifying a fierce animal, the *literal* or 6th species of Noun, and when used to denote a hero, the 7th species, or *figurative*.

SECT. II. OF IDEAS FORMED BY THE INTELLECT.

BE it known that the object of the logicians considered strictly is the thing comprehended by the understanding. Our discussion respecting expression and language was necessary to our design merely because this is the instrument or means by which that is conveyed or understood. Know then that an idea, which in the conception of the understanding, is not, true or applicable to the whole of the individuals of a class, is a particular idea; and that an idea that is applicable to the whole without restriction is an universal idea, even although it should exclude the existence of other constituent parts, for example "an equal to GOD," or though it should express a being having no existence, such as the *Unca*; or if there should be found a single being with the mere probability of another, such as the Sun; or with the impossibility of another, such as the Creator; or where

ان مع التناهی چنانچه سبعه سیاره و عدم
تناهي معلومات باري

چون در میان کلي و جزي تفرقه حاصل
شد پس حالا بدانکه در میان دو کلي یکي
ازین چهار نسبت متحقق میشود تباین
تساوي عموم خصوص مطلق عموم خصوص
من وجه

تباین ان است که از هر دو جانب تفارق
کلي باشد چنانچه انسان و حجر که یک
جا صادق نمیاید این نسبترا در اصطلاح
ایشان تباین گویند و هر دو کلي‌را باهم
متباین

و تساوي ان است که در هر دو جانب
صدق کلي باشد چنانچه انسان و ناطق
که جایکه انسان است ناطق است و جایکه
ناطق است انسان نیز البته این نسبترا
تساوي گویند و هردو کلي‌را باهم متساوي

و عموم خصوص مطلق ان است که از یک
جانب صدق کلي باشد و از جانب دیگر
نه چنانچه انسان و حیوان جایکه انسان
است حیوان البته خواهد بود و جایکه
حیوان است انسان ضرور نیست این نسبترا
عموم خصوص مطلق گویند و هر دو کلي‌را
باهم عام خاص مطلق

و عموم خصوص من وجه ان است که در
هر دو از کسي جانب صدق کلي نباشد
چنانچه حیوان و اسود در بعضي محل

several individuals are included with a limitation, such as the wisdom of God.

Having ascertained the distinction between universal and particular ideas, then know that there are established, among universal ideas, the four following relations: 1. The relation of disagreement; 2. The relation of agreement; 3. Relation between the general and particular idea in one way; 4. The relation of the general and particular idea in no way.

1. The relation of contrariety or disagreement is that in which there is a general repugnance on both sides as between man and stone, which do not reciprocate or correspond in any point; this relation logicians call contrariety, and the two general ideas with regard to each other contraries.

2. The relation of agreement is that in which there is a perfect reciprocity and agreement, for example "man" and "an animal endowed with speech;" For where there is a man, there also is an animal endowed with speech. This is called the relation of agreement; and the general terms are called correspondent or reciprocal.

3. In the relation called *Amom Chisoos Mutlick*, the sense of the general idea is corresponding or reciprocal only in one way; and not in the other; for example "man," "and living animal," where there is a man there is of course a living animal. But the reverse of this is not necessary. This relation is called *Amom Chisoos Mutlick*, and both terms opposed to each other *Amom Chisoos Mutlick*.

4. And the relation of *Amom Chisoos min wojéh* is that in which there is no reciprocation between the terms in any way; such as "animal" and "black-

حیوان است و اسود نیست و در بعضي محل
اسود است و حیوان نیست این نسبترا عموم
خصوص من وجه کویند و هر دو کلی را باهم
عام و خاص من وجه

پس حاصل کلام این است که در اول از
هر دو جانب کلیة ماده افتراق است و در
ثانی از هر دو جانب کلیة ماده اجتماع و
در ثالث از یک جانب کلیة ماده اجتماع است
و در یک محل ماده افتراق و در اربع از هر
دو جانب در محل ماده احتماع است و در
بعضي محل ماده افتراق

و نیز بدانکه کاهي کفته میشود جزیي
براي اخص یعني هرچه مندرج تحت عام
است انرا جزي کویند لیکن اول جزي حقیقي
است و ثاني جزي اضافی پس علی هذا
التقدیر انسان جزي اضافي است نسبت
بحیوان و حیوان جزي اضافي نسبت جسم
نامي و جسم نامي جزي اضافي نسبت
بجسم مطلق علي هذا القیاس هرچه مندرج
تحت مفهوم عام است نسبت بان جزي
اضافي تواند بود

ness;" For sometimes there is an animal without blackness, and sometimes blackness without an animal, This is called *Amom Chisoos min wojéh*, and the terms in relation to each other *Amom Chisoos min wojéh*.

The result is this, that in the *first*, the basis of the universal is *disjunction* on both sides; In the *second*, the basis of the universal is *conjunction*; In the *third*, the basis of the universal is *conjunction* on one side, and *disjunction* on the other; and in the *fourth*, there is on both sides, in certain points *disjunction* and certain points *conjunction*.

Let it also be remembered that sometimes the term *Juzzi* is used for *Achuz* a portion, that is to say that whatever is ranked under a general idea is called *Juzzi*. But the first, viz. *Achuz*, is called a real portion, and the second *Juzzi izaufi*, that is, a related part. According to this rule, therefore, man with regard to animal is a related part; and animal is a part with regard to *Jism naumi* or body defined; and body defined is a related part with regard to body in general, accordingly whatever is arranged under a general idea may be called *Juzzi izaufi*, or a related part.

فصل سیوم در دانستن کلیات خمسه

و کلیات همکي پنج کونه اند جنس نوع فصل خاصه عرض عام چراکه هر مفهوم کلی که هست از دو حال بیرون نیست داخل ماهیت است یا خارج ماهیت اکر داخل ماهیت نیز از دو حال بیرون نیست تمام ماهیت افراد خود است یا جزو ماهیت اکر تمام ماهیت افراد خود است چنانچه انسان که تمام ماهیت زید و عمر و بکر و غیره است پس انرا نوع کویند اکر تمام ماهیت افراد خود نیست بلکه جزو ماهیت است ان نیز از هر دو حال بیرون نیست جامع است جمیع مشترکات مختلف الحقایق را یا جامع نیست اکر جامع است چنانچه حیوان که جامه است در میان انسان و فرس و بقر که باهم مختلف الحقیقت اند پس انرا جنس کویند لیکن در اینجا فرق نازک است همین حیوان است که در یک محل جنس تواند بود و در یک محل نوع و وقتیکه سوال کنند در حقیقت انسان و فرس و در جواب ان حیوان واقع شود پس دران صورت جنس است چراکه اینجا مفهوم حیوان نسبت بانسان جزو ماهیت است و هم جامع است در میان انسان و فرس که باهم مختلف الحقیقت اند و وقتیکه سوال کنند از حقیقت فرس و بقر و غنم و غیره پس

SECT. III. OF THE FIVE UNIVERSALS CALLED PREDICABLES.

THE universals or predicables are altogether of five kinds, *viz.* genus, species, difference, peculiarity, accident. For every universal is reducible to one of two kinds; it is either inherent in the form, or not inherent in the form. If it be inherent in the form, this also is of two kinds. It either includes the whole form or character of the individuals under it; or it is only a part of the form; if it include the whole form of the individuals under it, such as, "Man," which includes the whole form of ZEID, OMAR, or BECKAR, &c. then it is called a *species*. If it be not the whole form of the individuals, but only a portion, this also is of two kinds. It either comprehends the whole of the different individuals, or it does not; if it comprehend the whole, like *Heywaun, animal*, which comprehends man, horse, and goat, varying in their character from each other, then they call it a *genus*, but here there is a nice distinction; for "animal" which is in one place a genus, in another way becomes a species. For example, when it is asked what is the nature of man or horse, and it is answered that they are animals, then, in this case, it is a genus: because here the idea of animal with regard to man is only part of his character, and at the same time comprehends man and horse, which vary in their nature from each other. But when the question is put respecting the nature of horse, goats, and sheep, &c.

از آن صورت نوع است چراکه در اینجا مفهوم حیوان جز و ماهیت نیست بلکه تمام ماهیت فرس و بقر و غنم است و اگر جز و ماهیت است با ینطور که جامع نیست بلکه مانع مشترکات مختلف الحقایق را پس فصل است چنانچه ناطق که تمام ماهیت نیست جز و ماهیت انسان است لیکن غیر اورا میکنند

واین هر سه را در اصطلاح ایشان ذاتیات گویند و انچه در خارج ماهیت است ان نیز از دو حال بیرون نیست مختص بحقیقت واحده است یا مختص بحقیقت واحده نیست اگر مختص بحقیقت واحده است چنانچه ضحک که مختص بحقیقت انسان است فقط پس ان را خاصه گویند اگر مختص بحقیقت نیست چنانچه حمرت و صفرت پس ان را عرض عام گویند

فصل چهارم در تعریفات

بدانکه غرض از بحث تصورات دانستن معلوم تصوري بود باین حیثیت که موصل است بطرف مجهول تصوري و ان را معرف گویند پس چون از جزاي معرف که کلیات اند خمسه فارغ شد حالا معرف را که مقصود بالذات از تصورات همین است گفته میشود

in this case animal is a species; for the thing understood by animal is not a part of the character, but the whole of the character of horse, goat, and sheep. But if it be a portion of the character in such a manner as not to include the different associates, but to exclude them, then it is a *difference*, for example, *nautik*, speaking; which is not the whole, but part of the character of man, which they abstract.

These three are called *zautiaut*, inherent or essential. Whatever is not essentially inherent in the character or nature, is likewise reducible to two kinds; it is something exclusively appropriated to one object only, or it is not exclusively appropriated to one object only. If it be exclusively or peculiarly appropriated like *laughter*, which is the peculiar property of man alone, then they call it *chauseh*, a peculiar property or peculiarity. If it be not peculiarly appropriated, such as the colour *yellow* and *red*, then it is called *aurizé aum* or common accident.

SECT. IV. OF THE DIFFERENT SPECIES OF DEFINITION.

LET it be remembered, that our object in discussing the subject of ideas was to obtain a knowledge of the known perceptible, in such a manner or form as might lead to a knowledge of the perceptible unknown, and this they call *maurif*, that is, a *definition*; and, therefore, since its constituent parts, which are the five universal ideas or *predicables*, have been just now described, a *definition*, which in reality consists of those, is of course, already explained.

معرف هر چیزان است که حمل کرده شده
بران براي اینکه فایده تصور ان شي حاصل
شود چنانچه معرف انسان حیوان ناطق
که و شرط است در معرف اینکه مساوي
باشد براي معرف یعني انچه تعریف ان
کرده میشود لازم است که با او نسبت
مساوات متحقق باشد و نیز لازم است که
معرف اجلی یعنی و اضح تر و روشنتر
باشد پس تعریف بالا عم صحیح نیست
مثلا تعریف انسان بحیوان و باخص نیز
روانست مثلا تعریف حیوان بانسان چراکه
در میان هردو نسبت عموم خصوص مطلق
است مساوات نیست و شرط این است که
مساوات باشد و نیز جایز نیست که تعریف
به چیز یکه مساوي معرف باشد در علم
همچنین جایز نیست به چیز یکه اخفی از
معرف بود چراکه شرط این شده که معرف
مساوي و اجلي میباید

پس چون تعریف معرف و شرایط ان معلوم
شد اکنون بدانکه معرف همه چهار کونه است
حد تام حد ناقص رسم تام رسم ناقص اکر
بجنس قریب و فصل قریب باشد چنانچه
تعریف انسان حیوان ناطق پس حد تام
است و اکر بجنس بعید و فصل قریب

The *maurraf* or the *thing defined* is that respecting which every circumstance is collected that can tend to give a proper idea of it; take, for example, *heiwaun nautik*, a *speaking animal*, as the definition of "*insaun*," that is *Man*; and, in defining, the definition must correspond with the thing defined, that is to say, the description with regard to the thing described must stand in the relation of *mussawaut muttahukuk*, real correspondence. It is likewise required that the definition should be more perspicuous, that is, more clear and obvious, and for this reason defining by a term that is more general than the thing defined is not proper; such, for example, as the description of *Man* by the term *animal*. Neither is it admissible to define by a term that is less general; such as the description of *animal* by the word *Man*; because the relation between *animal* and *man*, is that of *Amom Chusoose Mutluk*, and not that of *Mussawaut* or perfect agreement, which is required; nor is it allowable to define by means of a thing equally known, or less known than the thing defined, because it is required that the description should correspond, and be at the same time more clear.

The nature of definition and its requisites being now understood, let it be remembered that definitions may all be referred to four different kinds, viz.

1. *Huddi Taum* or *perfect definition.*
2. *Huddi Naukis* or *imperfect definition.*
3. *Resimi Taum* or *perfect indication* or *designation.*
4. *Resimi Naukis* or *imperfect indication* or *designation.*

1. If the definition consist of the nearest genus and the nearest difference, then it is a perfect definition, such as *Heiwaun Nautik*, the definition of man. 2. If it consist of the remote *genus* and the nearest

بود یا فقط فصل قریب بود پس ناقص است
چنانچه تعریف انسان جسم نامي ناطق
یا ناطق فقط و اکر بجنس قریب و خاصه
باشد چنانچه تعریف حیوان ضاحک پس
رسم تام است و اکر بجنس بعید و خاصه
بود یا فقط بخاصه بود پس رسم ناقص است
چنانچه تعریف انسان جسم نامی ضاحک
یا ضاحک فقط و تعریف صرف بعرض عام
معتبر نداشته اند چراکه غرض از تعریف امتیاز
و معرف است از ماسواي او و این فایده
از عرض عام حاصل نمیشود و کاهي رخصت
داده شده است در ناقص خواه حد ناقص
باشد خواه رسم ناقص تعریف بلفظ اعم مثلا
تعریف لفظي و تعریف لفظی انست که
معنی لفظي نا معلوم است لفظي دیکر
براي تفسیر و توضیح او اورده شد چنانچه
کویند الغضنفر هوالاسد یعني غضنفر بمعنی
شیر است و همین قسم در تعریف لفظی
کاهي بلفظ اعم هم اکتفا کرده میشود
چنانچه کسی که نمیداند بپرسید که دال
چه چیز است کویند کلي است همچنین
اکر در حد ناقص یا رسم ناقص لفظ اعم و ان
شبه رخصت داده اند

در

difference, or the nearest difference alone, then it is an imperfect definition, such as *Jism Naumi Nautik* for man, or *Nautik* alone. 3. If the description consist of the nearest genus, and the property or peculiarity, such as *Heiwaun Sauhuk*, a creature that laughs, for man, it is a perfect mark or designation. 4. And if it consist of the remote genus and peculiarity, or of the peculiarity alone, then it is an imperfect mark or description, such as *Jism Naumi Sauhuk*, a piece of laughing substance, or *Sauhukie*, laughing, only, as a designation of *man*.

And further, designation by common accident is not conceived to be good; because the object of definition is the discrimination of the thing defined from others; and this is not obtained from common *accident*. Sometimes in the *Huddi Naukis* and *Risimi Naukis*, Indication by a more common word or verbal description is admitted. That is the real meaning of a word not being well understood, another word is employed to explain and elucidate; for instance they say *Ulrruzfur hooul assad* to explain *Ruzfur*, which also means a lion. And in like manner in verbal description the designation is effected by an expression more common, as for example, when a person who does not know it asks "what is pain" they will say it is a thing common to all; and thus, in the *Huddi Naukis* and *Resimi Naukis*, if a more common word be used, it is allowed.

باب دوم در حجت

فصل اول در قضیه

بدانکه غرض از تصدیقات دانستن معلوم تصدیقی است باین حیثیت که موصل است بطرف مجهول تصدیقي و انرا قیاس و حجت کویند و چون قیاس مرکب است از قضایا پس اول دانستن قضیه لازم است

القضیه قول تحتمل الصدق و الکذب قضیه در اصطلاح ایشان قول است یعنی مرکب است چکونه مرکب که احتمال میدارد و صدق و کذب را چنانچه که زید قایم بر خلاف انشا یعنی اضرب غرض کلام خبر بهرا در اصطلاح ایشان قضیه کویند و ان قضیه اکر باشد حکم در او به ثبوت چیزي براي چیزي چنانچه کذشت یا بنفی چیزي از چیزی چنانچه زید لیس بقایم یعنی زید نیست قایم پس این قضیه حملیه است لیکن فرق این است که اول را حملیه موجبه کویند و ثانی را حملیه سالبه و نام داشته میشود محکم علیه موضوع یعنی انچه حکم کرده شده است بر او چنانچه زید در زید قایم ان را در اصطلاح ایشان موضوع کویند چنانچه در اصطلاح نحو مبتدا و محکم بهرا در اصطلاح ایشان محمول خوانند یعنی انچه حکم کرده شده است بدو چنانچه قایم در زید قایم انرا محمول کویند

PART II. Of Demonstration.

Sect. I. Of Propositions.

Let it be remembered, that the object of considering truths, is to obtain a knowledge of *truth known* in such a manner as to lead us to the knowledge of *truth unknown*; and this they call syllogism and reasoning: and since a syllogism is composed of *propositions*, a previous knowledge of these is required of course.

A proposition is a sentence containing either a truth or an untruth; that is to say, in the language of logicians, it is a compound or affirmation containing what is true or false; such as Zeid *is standing*, in contradistinction to an expression, such as *Azreb*, which does not convey any assertion. In short, the thing predicated is called a proposition, and if that proposition affirm something of another thing, as in the preceding example, or deny any thing of another thing, as in the example Zeid *Kauim Naist*, Zeid is not standing," then these are absolute propositions, and the *first* is called an absolute affirmative, and the *second* an absolute negative, and the *subject* of which the affirmation is made, corresponding to *mubtida* in grammar is called *Mozooey*; as Zeid in the sentence Zeid *Kauim:* and the thing spoken or proposed respecting the *Mozooey* is called *Muhmool:* such is *Kauim* he is standing, in the sen-

چنانچه در اصطلاح نحو خبر

و انچه دال بر نسبت است انرا رابط کویند چنانچه در اصطلاح نحو ضمیر و استعاره کرده اند براي ان لفظ هو يعني رابط در زيد قايم و مثل ان مثلا در لفظ مذکور نيست و ضرور است که براي رابط کلام چيزي ميبايد پس لازم در اين مقام استعاره کرده اند بلفظ هو يعنی کويند که برای رابط کلام هو در اينجا مستتر است

و اکر اينچنين نباشد چنانچه کذشت پس ان قضيه شرطيه کويند چنانچه ان کانت الشمس طالعة فالنهار موجود يعنی اکر باشد افتاب روشن پس روز موجود است اينچنين قضيهرا قضيه شرطيه و نام داشته ميشود جز اول يعني انکانت الشمس طالعة در اصطلاح ايشان مقدم چنانچه در اصطلاح نحو شرط و نام داشته ميشود جز ثانی فالنهار موجود در اصطلاح ايشان تالی چنانچه در اصطلاح نحو خبر

بعد از اين بدانکه قضيه حمليه بحسب موضوع برچند قسم منقسم ميشود

فصل دوم در بيان قياس

قياس قولی است که ترکيب داده شده است از قسيه ها اينچنين قول که لازم

tence ZEID *Kauim*, corresponding in the language of syntax to the term *Chabber*.

That which expresses the connection between the subject and predicate is called *Raubit* or copula. In grammar they make use of the word *Hoo* for this annection; and something similar being required for connecting the words "ZEID *Kauim*" they have, for this purpose, substituted the pronoun *Hoo*, which is understood without being expressed.

But if the thing predicated be not affirmative or negative of something ascribed to something, as in the preceding examples, then such a proposition is denominated conditional, as for example, "If the sun shine, then it must be day." The first member of this sentence, "If the sun shine," logicians call *Mokuddem*, that is, the antecedent; which corresponds to the term "*shirt*" the *condition* in syntax, and the second part of the proposition "Then it must be day," is denominated *tauli*, that is, the consequent; which corresponds to the term *Chabber* in syntax.

This being premised, know that an absolute or categorical proposition admits of various distinctions arising from the nature of the *Mozooeh* or subject, &c. &c.

SECT. II. OF SYLLOGISMS.

A SYLLOGISM is a sentence composed of propo-

است براي ذات او قولی دیکر بدانکه چون
از بحث قضیه ها که دانستن حجت موقوف
بران بود فارغ شد اکنون در بحث حجت
شرع کرد و حجت دلیل اوردن از حال
چیزي است براي اثبات حال چیزي و ان
بر سه کونه قیاس استقرا تمثیل اما قیاس
ان است که دلیل ارد از حال کلي بر حال
جزي که این جزي داخل ان کلیست پس
شریک ان حال خواهد بود این قسم دلیل
مفید یقین است چنانچه العالم متغیر و
کل متغیر حادث پس نتیجه حاصل خواهد
شد که العالم حادث بدانکه قول مولف که
از ذات او قولي دیکر لازم میاید انرا قیاس
کویند و قولي دیکر که از او پیده میشود
انرا نتیجه نامند

و هر دو طرف نتیجه یعني موضوع و
محمول نتیجه که در قیاس مذکور اند
انرا ماده نتیجه خوانند و ترتیب که در
میان انها واقع است انرا هیت نامزد
فرمایند پس اکر نتیجه اندرون قیاس
بماده و هیت خود مذکور است ان قیاسرا
قیاس استثناي کویند چراکه مشتمل است
بر کلمه استثنا یعنی لیکن چنانچه کلما
کانت الشمس طالعه فالنهار موجود لیکن
الشمس طالعة پس نتیجه حاصل خواهد
شد که النهار موجود که اندرون قیاس بماده
و هیت مذکور اند و اکر چنین نباشد

sitions, and in such a manner, that there necessarily arises from this composition another sentence. Know then that having finished our investigation of propositions on the previous knowledge of which all reasoning or demonstration depends, I shall now consider demonstration :—Demonstration or reasoning is the process of inferring something from the state of one thing to prove the state of another; and this is of three kinds, viz. *Syllogism*, *Induction*, and *Analogy*. Syllogism is that in which an inference is drawn from a general rule or class to a subordinate part or individual belonging to that class; which must of course partake of its general nature or character. This species of argument affords certainty or truth. Take, for example, " The world is changeable, and every thing liable to change was created;" thus they obtain the conclusion that the world did not exist from eternity, that is, was created. Be it then understood, that two sentences combined, from the nature of which there necessarily arises a third, constitute what is called *Keeause* or syllogism: and the third sentence thus obtained is called *Neteejeh*, that is, the conclusion.

The subject and predicate contained in the conclusion of the syllogism described is called the *Maddeh*, that is, the *matter* of the conclusion; and the order in which they are placed constitutes what is called *Heiyet*, that is, the form or figure. If the matter and figure of the conclusion appear in the premises of the syllogism, then that syllogism is called conditional, because the conditional particle *Leikin* must be included in it. Take, for example, " whenever the sun shines day must exist;" but the sun shines, which gives the conclusion—" Then day exists," which is materially and formally contained in the preceding syllogism. But if the conclusion be not materially and formally expressed in the premises

يعني نتيجه در قياس به هيت خود مذكور نباشد انرا قياس اقتراني كويند خواه حملي باشد خواه شرطي

موضوع مطلوب يعني موضوع نتيجه از قياس حملي نام داشته ميشود اصغر و محمول نتيجه از حملي نام داشته ميشود اكبر و قضيه كه در او اصغر است انرا اصغري كويند و انچه در او اكبر است انرا اكبري كويند و انچه در ميان موضوع و محمول نتيجه مكرر واقع شده است انرا حد اوسط و اوسط كويند

فصل سيوم در استقرا

بدانكه استقرا پيدا كردن جزئيات است براي ثبات كردن حكم بر كلي بدانكه همكي حجت و دليل بر سه كونه است اول قياس دوم استقرا سيوم تمثيل اول قياس چنانچه كذشت اما استقرا انست كه دليل ارد از حال جزئيات براي اثبات حكم كلي كه بر تمامي ان جزئيات ثابت است و اين استقرا بر دو كونه قسمت ميابد استقرا تام و استقرا ناقص

اما استقرا تام انست كه تمامي جزئيات انرا ملاحظه نموده حكم بر كل نمايند چنانچه كل حيوان اما ناطق و غير ناطق و كل ناطق حساس و كل غير ناطق حساس كه نتيجه ميدهد كل حيوان حساس

of the syllogism, then it is denominated *Ikterauni*, that is, simple or categorical: whether it be absolute or conditional.

The *subject* considered in the conclusion of a simple syllogism is called *Asrur*, that is, the minor; and the thing predicated of the subject is called *Akbar*, that is, the major; and the proposition which contains the minor is called *Sururi*, minor proposition; and the proposition which contains the major, is called *Akburi*, or major proposition; and the term with which the subject and predicate of the conclusion are both compared is called the middle term or *Huddi Osit*, or *Osit*, &c. &c. &c.

N. B. From the various modes in which the middle term may be placed, there arises a division of syllogism into four different *forms* or figures, or *Ashkaul*; which are again subdivided and branched out into a great many subordinates.

SECT. III. OF INDUCTION.

BE it known that Induction is the process of collecting particulars for the purpose of establishing a general rule respecting the nature of the whole class.

Argument, or reasoning, is supposed, as we formerly observed, to be of three kinds, *Syllogism*, *Induction*, and *Analogy*; and syllogism has been just now discussed. Induction is of two kinds, viz. perfect and imperfect.

It is *perfect* induction when the general rule is obtained from an examination of all the parts. For example, all animals are either endowed with speech, or not endowed with speech. But those endowed and those not endowed are both sentient, therefore all animals are sentient. This is an example

انرا استقرا تام کویند و این قسم استقرا مغید
یقین است

اما استقرا ناقص انکه اکر جزبنات انرا
اتصفح نهایند و بعد از ان حکم بر کل
ان جزبنات نهایند چنانچه کوبند کل حیوان
متحرك چکه الا سفل عند المضغ یعنی
هر حیوان که هست متحرک دندان زرین
او نزدیك حاییدن چراکه انسان و بقر و غنم
و غیران که از قسم حیوان فرض کنیم
همچنین است و انرا استقرا ناقص کویند
چراکه این قسم استقرا مغید یقین نمیشود
و احتمال است که بعضی از اینها چنان
باشند که چکه اسفل نزدیك مضغ حرکت
ننهایند چنانچه این معنی مسموع شد در
تمساح یعنی نهنک

بدانکه دو قسم از دلیل که قیاس و استقرا
است بیان ان کذشت باقي ماند تمثیل

فصل چهارم در تمثیل

و تمثیل بیان مشارکت جزي است براي
جزي در علت و موجب حکم تا انکه ثابت
شود نسبت ان حکم در او چنانچه کویند
نبیذ یعنی غوره حرام است و علت حرمت
درخمر سکر است و سکر در غوره هم موجود
است پس ثابت شد که غوره نیز حرام باشد
عمده در طریق ان دوران و تردید است

of perfect Induction, which produces certainty.

It is *imperfect* induction when a number of individuals of a class being overlooked or excluded, a general rule is thus established respecting the whole. For instance, if it should be assumed that all animals move the under jaw in eating, because this is the case with man, horse, goats, and sheep, this would be an example of imperfect induction, which does not afford certainty: because it is possible that some animals may *not* move the under jaw in eating, as it is reported of the *Tumsukh* or *Nehung*, the crocodile.

Having considered the first two modes of reasoning, there still remains to be explained *Analogy*.

Sect. IV. Of Analogy.

Analogy is the unfolding of an affinity or resemblance between two subordinate parts of the same class, differing in their nature and properties, so as to establish a general law and axiom respecting both; take, for example, the general rule, that "grapes are prohibited because wine is," which conclusion is obtained thus. The cause of the prohibition of wine is intoxication; but intoxication exists also in the grape; therefore it is proved that the grape likewise is prohibited. The instruments of this process are *analysis* and selection, &c. &c.

فصل پنجم در تقسیم قیاس بحسب ماده

بدانکه قیاس چنانچه بحسب صورت دو قسم است اقترانی و استثنای چنانچه گذشت همچنین بحسب ماده یعنی با عتبارا جزائیز برپنج گونه میشود اول برهانی دوم جدلی سیوم خطابی چهارم شعری پنجم سفسطی

و قیاس برهانی مرکب میشود از یقینات یعنی بدهیات و اصول ان شش است اول اولیات و اولیات انرا گویند که فقط ملاحظه موضوع و محمول و نسبت کافی باشد برای حکم چنانچه الکل اعظم من الجزء

دوم مشاهدات و مشاهدات انرا گویند که در ان حکم کرده شده باشد بواسطه حس اگر حس ظاهر باشد انرا حسیات گویند چنانچه الشمس مضیة و النار محرقته و اگر حس باطن باشد انرا جدینات گویند چنانچه لنا جوعا و عطشا

و سیوم تجربیات است و تجربیات انرا گویند که دران حکم کند عقل بتکرار تجربه چنانچه السقمونیا مسهل

چهارم متواترات و متواترات انرا گویند که دران حکم کند عقل بواسطه استماع از جماعت که محال داند احتمال انرا بر کذب چنانچه محمد علیه السلام و عیسی علیه السلام نبی خدا است

SECT. V. SYLLOGISM DIVIDED ACCORDING TO THEIR MATTER.

LET it be observed, that as syllogisms have been divided according to their *figure* or *form* into absolute and conditional, so are they likewise distinguished according to their *matter* or constituent parts, into five different classes, *viz.* the demonstrative, the casuistical, the rhetorical, the poetical, the sophistical.

I. The demonstrative are composed of *truths*, that is to say, perceptions, the different species of which are six.

1. Intuitive or self-evident truths; to obtain which the bare inspection of the subject and predicate, and the relation in which they stand to each other is sufficient: for example, "a whole is larger than a part."
2. Evidences, obtained by means of sensation which are called *Hissiaut* if they be external, such as "the sun shines, the fire burns; and *Judinaut*, if they be internal; as, for example, "hunger and thirst."
3. Experiences, which are the conclusions formed by the understanding from repeated trials; as, for example, "that Scammony is a Cathartic."
4. Traditions, which are the conclusions which the understanding forms from the reports of a number of people; and which cannot be supposed to be false, such as the mission of the prophet MAHOMMED, and JESUS CHRIST.

پنجم حدسيات و حدسيات ان است که حکم کرده شد در او بو اسطه حدس طبيعت و حدس سرعت انتقال است از مبادي بمطلوب مثلا نور القمر مستفاد من نور الشمس

ششم فطريات و ان است که حکم کرده شد در او بو اسطه انکه ان و اسطه غايب نميشود از ذهن نزديک تصور اطراف مثلا انکه اربع زوج است دوم قياس جدلي است و مرکب ميشود از مشهورات و مسلمات اما مشهورات ان قضيه هاست که دران راي کل مطابق باشد چنانچه العلم حسن و الجهل قبيح

اما مسلمات ان قضيه هست که تسليم کنند از خصم و بناي کلام نهند جهت دفع خصم

سيوم قياس خطابي است و مرکب ميشود از مقبولات و مظنونات اما مقبوالت ان قضيه هست که اخذ از کسانيکه در حق ايشان حسن اعتقاد داشت مثل انبيا و اوليا

اما مظنو نات ان قضيه هست که حکم کرده ميشود در ايشان بحکم رايج تجويز نقيض انچنان فلان شارق لانه موطف بالليل

چهارم قياس شعري است و ان مرکب ميشود امتخيلات چنانچه العسل يا قوتيه ساليه

5. Conjectures, which are opinions founded on notions respecting quality and motion; and formed by inferring an *effect* from a supposed principle or cause: such, for example, as "That the light of the moon is derived from the light of the sun."

6. The general properties of matter, that is, such as are obvious without the intervention of any latent intermediate idea, for example, "four is an even number."

N. B. In the original here follows the distinction of demonstration or proof into reasoning *à priori* denominated *Berhaun Lemmi*, and reasoning *à posteriori* denominated *Berhaun Anni.*

II. The casuistical or disputative, which are,

1. Current and prevailing opinions agreeable to the ideas of the multitude, such as "learning is good, and ignorance bad."

2. Malicious insinuations artfully expressed to conceal the motive.

III. The rhetorical, which are composed,

1. Of propositions taken for granted upon some respectable authority, such as that of the prophets and fathers.

2. Of presumptions or suspicions grounded on the frequency of some improper practice; such as that of a person being a thief from his going abroad in the night.

IV. The poetical, which are founded on fiction. Honey, for example, they make a liquid ruby.

پنجم قیاس سفسطی است و ان مرکب
میشود از و همیات و مشبهات

اما و همیات ان قضیه هاست که حکم
میکنند بایشان در غیر امور محسوسه مثل
کل موجود مشار الیه

و مشبهات ان قضیه‌ها اند در اصل و
مشتبه بصدق مینمایند چنانچه کویم
صورت فرس‌را که منقوش است بر دیوار و
فرس است و هر فرس صهال است نتیجه
میدهد که این صورت صهال است

V. The sophistical, are composed,

1. Of vague language without specifying any precise object, such as the vague expression "The person to whom we allude."

2. Quibbles, which, though absolutely false, exhibit some appearance of truth; as if I should say, *that* "the figure of the horse which is painted on the wall is a horse;" *that* "every horse neighs;" and, consequently, *that* "the figure on the wall must also neigh."

V.

An Account of the Measurement of an Arc on the Meridian on the COAST *of* COROMANDEL, *and the Length of a Degree deduced therefrom in the Latitude* 12° 32′.

BY BRIGADE MAJOR WILLIAM LAMBTON.

IN a former Paper which I had the honour to communicate to the *Asiatick* Society, I gave a short sketch of an intended plan for establishing a series of connecting points commencing from the *Coromandel* Coast, and extending across the Peninsula; but that Paper was only meant to convey a general idea of the principles on which the work was to be conducted; a more circumstantial and scientific account, it was thought, would be more to the purpose, when I had the means of putting the plan in execution, and detailing the particulars. Since that time I have received a most complete apparatus, which has enabled me to proceed on the scale I originally proposed, and what is here offered is the beginning of that work, being the measurement of an arc on the meridian, from which is deduced the length of a degree for the latitude 12° 32′ which is nearly the middle of the arc.

The triangles here mentioned are those only, from which the arc is obtained, and the base line, the foundation to the whole, is a measured line near the Sea Coast, an account of which is here subjoined.

SECTION I. An Account of the Base Line.

Some time had been taken up in examining the country best suited for this measurement, and at length a tract was found near *St. Thomas's Mount*, extremely well adapted for the purpose, being an entire flat, without any impediment for near eight miles, commencing at the race ground, and extending southerly. This being determined on, and the necessary preparations made, it was begun on the 10th of *April*, and completed on the 22nd of *May*, 1802.

I had expected a small transit instrument from *England*, for the purpose of fixing objects in the alignement, and for taking elevations and depressions at the same time; but that instrument not having arrived, I thought it unnecessary to wait, particularly as the ground was so free from ascents and descents; I therefore used the same apparatus as I had formerly done, viz. the transit circular instrument and the levelling telescope fixed on a tripod with an elevating screw in the center. In all horizontal directions, this telescope fully answers the purpose, and as there has been no deviation from the level to exceed 26′ 30″ excepting in one single chain, and those cases but very few, I feel entirely satisfied as to the accuracy of the whole measurement.

The chain which was made use of is the one I formerly had, and I was fortunate enough to receive another from *England*, made also by the late Mr. Ramsden, and this having been measured off by the standard in *London*, when the temperature was 50° by Fahrenheit's thermometer, it afforded me an advantage of correcting for the effects of expansion, a circumstance in which I was by no means satisfied in the former measurement. In order, therefore, to have a standard at all times to refer to, I have reserved the new chain for that purpose, and used the

old one only as a measuring chain, by which means I can always determine the correction for the wear.

By referring to the annexed table, it will appear that there are only four angles of depression, and two of elevation, taken in the whole length of the base; the rest are all horizontal measurements, and many of them consist of a great number of feet before it became necessary either to sink or elevate the coffers; when that was done, great care was taken to mark the termination of the preceding measurement; and for that purpose a small tripod was used in the shape of a T, with three iron feet to run into the ground, the straight side of which T was placed in the line. Another small T was made with its top also parallel to the line, and fixed upon the large one so as to slide to the right or left, and upon that again was a long piece of brass made to slide out at right-angles to the top of the T; in the middle of this brass a mark was made, which was brought to a plumb line let fall from the arrow, and the height from the brass to the arrow was noted down; when the succeeding chain was laid, which was to commence the new level or hypothenuse, the arrow was then brought, so that a plumb line freely suspended, would coincide with the mark on the brass slider. The height of that chain above the brass was likewise taken, by comparing those two heights the elevation or depression of the new commencement was determined, and those differences noted in the seventh and eigth columns of the table. The differences of the two aggregates contained in those columns, when applied to the ascents and descents, will therefore shew how much one extremity of the base is above the other. The height of the chain at the commencement and termination of the whole was of course taken from the ground.

All the other particulars respecting this measurement are nearly the same as that in the *Mysore* coun-

try, a full account of which has been published in a former volume of the *Asiatic* Researches. Some little alterations have been made in the coffers; that is, they were all of the same length, and the whole together about ninety-six feet, so as to give room for the pickets with the brass register heads. Their sides continued to the ends, and their depth on each side was the same, for the purpose of being turned every day that they might fall into a curve by their own weight and that of the chain. I also used tripods with elevating screws in the center, for supporting the coffers, making no other use of pickets than for the drawing and weight posts, and for carrying the register heads. The top of each stand on tripod was a thick circular piece of wood fixed firmly to the end of the elevating screw, and a slip of board was fastened across the circular top, screwed into the center, and allowed to turn round. When the ends of two coffers were placed on the top piece, this slip of board was admitted into the under part of each, and prevented their sliding off, a precaution that was very necessary on account of the high winds.

The point of commencement of the base was had by dropping a plummet, from the arrow of the chain suspended by a silken thread. A long but small bamboo picket had been driven into the ground till its top was level with the surface, and the cavity of the bamboo was such as just to receive the plummet, and when the first chain was in the coffers, drawn out by the weight at the opposite end, it was adjusted by the finger screw at the drawing post in such a manner that the plummet might hang suspended over the cavity of the bamboo, while the thread was applied to the arrow. This was done within the observatory tent, that the plumb line might hang freely without being disturbed by the wind. The bamboo picket was preserved with great care during the time I was observing for the latitude, and was then pro-

tected under the frame of the zenith sector. When the tent was removed, a large bamboo flag-staff was erected, whose cavity covered the picket, and in that state it remained until the measurement was completed.

At the termination of the base, being the end of a chain, one of the large hooped pickets was driven into the ground till its top was on a level with the coffers and under the arrow of the chain. The opposite end being adjusted by the finger screw, the arrow at the leading end was nearly the center of the picket. A mark was made, and a small round headed nail was driven in till it was level with the surface. The chain was again applied, and the arrow cut the center of the nail. The picket had been driven upwards of two and a half feet into very hard clay.

But that those extremities may be preserved, in case they may hereafter be referred to, I erected small masses of hewn stone eight feet square at the bottom and four at the top, the axis of those masses being made to pass through the points of commencement and termination, and in order that this might be correctly done, the following method was used.

I marked ont the foundation of the building, so that the picket might be as nearly in the center of it as possible. The earth was dug about a foot deep, reserving a space round the center untouched. After the foundation was brought to a level with the surface, the first tier of stones was laid, being one foot in height. The inner part was then filled up with stones and mortar, taking particular care at the same time that the center was not touched. The next tier of stones was then laid, which was six feet square and one foot high. This also was filled in with great care, and some cement and bricks put gradually round the picket. After that the last tier was laid which was four feet square and also one foot high.

When these stones were firmly fixed small silken threads were drawn across each other in the diagonals of the square. A plummet (pointed) was then suspended from the point of intersection of those threads, and they were so moved that the point of the plummet coincided with the center of the nail in the picket. The position of these threads being determined, marks were inserted in the stone. The cavity was then filled up, and a square thick stone was fixed in the middle of the mass, having a circular place of about four inches diameter, sunk half an inch deep, and whose center was marked by a point. This point, by moving the stone and again applying the silken threads was brought to coincide with the point of intersection, and then it was firmly fixed and pointed.

Precisely the same kind of building was erected at the beginning of the base, but in place of having a picket in the center, four large hooped ones were driven into the ground, forming a square of about ten feet, the small bamboo picket being intended as the center. Silken threads were then drawn across from the diagonal pickets, and so moved, that the plummet first used, suspended from the point of intersection of the threads, might drop into the cavity of the bamboo. That being adjusted, lines were drawn on the tops of the pickets where the threads had been extended. The building was then erected, and the center both of the second and last tier, was marked by the intersection of those threads when applied to the marks on the pickets.

Such has been the mode of defining the extremities of the line. The buildings are well built of stone and some brick, and will remain for years, if not injured by acts of violence. They are intended to receive an instrument on the top, and the points are points of reference if it should ever be thought necessary to have recourse to them.

EXPANSION OF THE CHAINS AND THEIR COMPARATIVE LENGTHS.

As I wished to be satisfied with respect to the expansion of each of the chains, and their comparative lengths, I made a course of experiments for both purposes. I had accordingly the coffers arranged near the ground, that the drawing and weight posts might be driven deep and firmly fixed. Both the chains were then put into the coffers, and the comparisons made as follows:

April 10, at six P. M. the temperature by a mean of five thermometers was 85°,6.

Three comparisons were made, and the old chain exceeded the new one, nine divisions of the micrometer screw.

April 10, at six A. M. the temperature by a mean of five thermometers was 79°.

Four comparisons were made, and the old chain exceeded the new one nine divisions. Therefore at the commencement, the old chain exceeded the new one in length, nine divisions of the micrometer.

May 23.	After the base was completed, the temperature by a mean of five thermometers, was 86°.	
	By a mean of five comparisons, the old chain exceeded the new one	10,65 divisions.
24.	The temperature by a mean of five thermometers was 84°.	
	And a mean of six comparisons, gave the excess of the old chain above the new one - - -	11,08 do.
25.	The temperature was 87°.	
	And a mean of two comparisons, gave - -	11,00 do.
	Mean	10,86 do.

Hence it appears, that at the conclusion of the base, the old chain was longer than the new one, 11 divisions of the micrometer very nearly, so that it had increased from being in use, 2 divisions, or $\frac{2}{208}$ inches.

These experiments were made with great attention, and when either chain was stretched out by the weight, it was carefully brought into a line in the coffers.

As I had reserved the new chain for a standard, and knowing the temperature at which it had been measured off in *London*, I considered it an object to determine its rate of expansion and contraction compared with the thermometers which had been in use in measuring the base, since these were but common ones, and might probably differ from those made use of by General ROY and others, who had determined the expansion of metals by the pyrometer; and I was further induced to do this, from seeing the great variation among them, when the degree of heat became above one hundred, which it generally was in the coffers every day before I left off. To avoid those irregularities arising from the expansions being checked by the resistance from the pressure on the coffers, I chose the times of sunrise, and from one to two o'clock, P. M. for making the observations. Sunrise in *India* is generally the coolest time of the twenty-four hours, and the chain had during the night, on account of the uniform state of temperature, full time to free itself from any resistance. At the hottest part of the day likewise there is a considerable time when the thermometers are nearly stationary, which will afford time for the resistance in the coffers to be overcome, and it is necessary to pay particular attention to this circumstance, for the chain will be perceived to lengthen often for nearly half an hour after the thermometers are at their highest.

I had made a great many experiments prior to the measurement, but found great irregularity, partly from not attending sufficiently to the above circumstance, and partly from the unsteadiness of the drawing post, notwithstanding it was driven deep into very hard ground, and secured, as I thought, by having large stones pressed close on each side of it. To remedy this latter inconvenience, I had a staple driven into a brick wall, into which the iron was fixed with the adjusting screw for the chain, after which I perceived a perfect coincidence with the arrow and mark on the brass head, except what arose from the trifling expansion and contraction of the iron which held the chain. I then began a new course of experiments on both the chains, and the results were as follows:—

Experiments for determining the expansion of the new Chain.

1802. Month.	TIME.	Mean of 5 Thermometers.	Change of Temperature.	No. divisions.	Total expansion and contraction.	Total due to 1°	REMARKS.
					Inches.	Inches.	
June 4.	2 P.M.	116,4	33,4	51	,245157	,00734	Weather clear and windy during the whole of these experiments.
5.	⊙ rise.	83	40,8	64	,307648	,00754	
	2 P.M.	123,8	41,3	64	,307648	,00744	
6.	⊙ rise.	82,5					
14.	⊙ rise.	80	39,1	60	,288420	,00737	
	2 P.M.	119,1	37,7	57	,273999	,00727	
15.	⊙ rise.	81,4	40,5	63	,302841	,00747	
	2 P.M.	121,9	42,2	66	,317262	,00752	
16.	⊙ rise.	79,7					
					Mean	00,742	

Experiments for determining the expansion of the old Chain.

1802. Month.	TIME.	Mean of 5 Thermometers.	Change of Temperature.	No. divisions.	Total expansion and contraction.	Total due to 1°	REMARKS.
June 8.	⊙ rise.	83,5	26,8	42	,201894	,00749	Cloudy weather and high winds during the whole of these experiments.
	2 P.M.	110,3	25,1	40	,192280	,00766	
9.	⊙ rise.	85,2	24,8	39	,187473	,00755	
	1 P.M.	110					
12.	⊙ rise.	80,2	27,9	42	,201894	,00724	
	2 P.M.	108,1	24,8	38	,182666	,00736	
13.	⊙ rise.	83,3	28	42	,201894	,00721	
	2 P.M.	111,3	31,3	46	,221122	,00706	
14.	⊙ rise.	80					
					Mean	,00737	

It appears from these results, that the expansion due to 1° of the thermometer is less than what has been allowed by experiments made in *England*, but this might arise from the thermometers, as they were such as could be purchased in the shops, and therefore most probably of the best kind. Great care, however, was taken to watch the moment when they stood the highest, and though they varied from one another considerably at that time, yet that variation was generally the same in equal temperatures.

The reductions from the hypothenuses to bring them to the horizontal level, were made by numbering the feet from the old chain as they were measured, viz. by calling 32 chains 3200 feet, which would be 3200,115 feet by the new chain; but this would produce no sensible error in the versed sign of a very small angle, and on that account these decimals were not taken into the com-

putation, which was thought less necessary, since the whole deduction did not amount to three inches. Neither was any notice taken of the different heights of the hypothenuses or levels one above another, as that difference was too trifling to affect a length of thirty or forty chains. The base has therefore been considered at the same distance from the center of the earth, before it was reduced to the level of the sea, and the perpendicular height of the south extremity, which I have considered as nearly the general height, has been taken for that purpose. That perpendicular height was obtained by comparing the south with the north extremity, and the height of the latter was determined by observations made at the race-stand and on the sea-beach, where allowance has been made for the terrestrial refraction. The following is the manner in which it has been determined:

On the top of the race-stand, the under part of the flag on the beach was observed to be depressed 9′ 30″; and at the beach, the top of the race-stand was elevated 7′ 15″. When the instrument was on the platform of the race-stand, the axis of the telescope was on a level with the top of the railing, which was observed from the beach. But at the beach the axis of the telescope was four feet below the part of the flag which had been observed.

The horizontal distance from the station on the stand to that on the beach is = 19208 feet. Then as 19208 : 4 :: Rad : tan. 43″, which must therefore be added to the observed depression of the flag— Hence 9′ 30 + 43″ = 10′ 13″ is the depression of the axis of the telescope on the beach, observed from the race-stand.

Now the station on the beach is nearly at right angles to the meridian, therefore, by allowing

60957 fathoms to the degree, 19208 feet will give an arc of 3′ 9″ very nearly, which is the contained arc. And the difference between the depression and elevation being 2′ 58″, we have $\frac{3' 9'' - 2' 58''}{2} = 5'',5$ for the terrestrial refraction. Hence, since the observed elevation of the stand, *plus half*, the contained arc would give the angle subtended by the perpendicular height of the stand above the telescope at the beach, were there no refraction, we shall have $7' 15'' + \frac{3' 9''}{2} - 5'',5 = 8' 44''$ for the true angle subtended by the perpendicular height, which being taken as tangent, to the horizontal distance and radius, we have R : tan. 8′ 44″ :: 19208 : 48,797 feet the height required. But the axis of the telescope on the beach was determined by levelling down to the water, to be 21,166 feet above the sea. Which, added to the above, give 69,963 feet for the perpendicular height of the top of the stand above the level of the sea.

Now the top of the race-stand was determined by levelling to be 31,25 feet above the north extremity of the base; which taken from the other, leaves 38,713 for the north extremity of the base above the sea, which extremity being, by the table, 22,96 feet above the south extremity, we shall have 15,753 feet from the perpendicular height of the south extremity of the line above the level of the sea; and from this height the length of the base has been reduced.

The angles of elevation and depression were taken by the circular instrument, from a mean of several observations, and the error of collimation was corrected by turning the transit over, and the horizontal plate half-round. But the weather was rather dull during the whole of these operations.

TABLE.

Containing the particulars of the measurement of a base line near *St. Thomas's Mount*, commencing in latitude 13″,00′,29″,59 N. and extending 40006,4418 feet South Westerly, making an angle with the meridian 0° 10′ 36″. The first column contains the number of the hypothenuse, or measured distances. The second the length of each in feet. The third the angles of elevation and depression (which each hypothenuse makes with the horizon). The fourth the quantities to be subtracted from the respective hypothenuse to reduce it to the horizon. The fifth the perpendicular ascents and descents to each hypothenuse. The sixth the commencement in inches of every hypothenuse above or below the termination of the one preceding; and the seventh contains the mean temperature during the respective measurement.

Hypothenuse.	Length of each in feet.	Angles of elevations and depressions.	Deductions from each hypothen.	Perpendicular.		Commencement from the last.		Means of 5 Thermometers.	REMARKS.
				Ascents.	Descents.	above Inch.	below Inches.		
		° ′ ″							
1	600	0 19 40	,00984		3,4325	25,5		86,6	Commenced
2	500	0 26 00	430		3,7815			81,9	the 10th
3	2100	0 26 30	,06237		10,1878	2,5		84,5	April, 1802.
4	300	Level.				2,37		94,5	
5	600	do.					7,37	84	
6	100	do.				2,75		90,4	
7	400	do.				5,75		95,3	
8	500	do.				1,12		82,2	
9	100	do.				5,0		91	
10	400	do.				4,0		93,2	
11	300	do.					7,25	93,3	
12	300	0 20 30	,00534		1,7890		8,25	84,9	
13	100	Level.					10,0	90	In the water.
14	100	3 02 30	,14088	5 3062			8,5	96	Bank of a
15	100	Level.				8,		107,4	Tank.

No. of the hypothenuse.	Length of each in feet.	Angles of elevations and depressions.	Deductions from each hypothen.	Perpendicular.		Commencement from the last.		Means of 5 Thermometers.	REMARK[S]
				Ascents.	Descents.	above Inches.	below Inches.		
		° ′ ″							
16	100	Level.					40,87	105,8	
17	200	do.					11,75	82,2	
18	200	do.					14,12	83,4	
19	500	do.					6,12	89,2	
20	300	do.					5,25	92,9	
21	700	do.				12,25		87,5	
22	300	do.					7,87	93,7	
23	500	do.					17,5	92,8	
24	900	do.					10,12	91,2	
25	400	do.					4,75	85,8	
26	500	do.					10,62	85,8	
27	300	do.					11	93,5	
28	400	do.					12	86,8	
29	1200	do.					11,37	88,9	
30	600	do.				3,5		86,7	
31	1700	do.				9,37		90,6	The 2 ch[ains]
32	700	do.				4		85,4	in the
33	200	do.				10,75		91,3	*Chingl[e]*
34	800	do.				7,5		91,5	*pet* ro[ad]
35	400	do.					12,75	94,8	
36	2000	do.					15	90	
37	2100	do.					6,9	91,5	
38	3200	0 04 50	,00320	4,4991		8,8		90,1	
39	900	Level.					1,8	96,9	
40	1200	do.					11,4	90,5	
41	800	do.					7	93,7	
42	1400	do.					6,7	93,4	
43	1100	do.					2,8	90,9	
44	500	do.					3	93,4	
45	600	do.				2		88,7	
46	1200	do.				10,2		93,8	
47	3200	do.				7,2		93,1	
48	1400	do.				7,2		90,4	
49	2200	do.				5,6		91,8	Completed t[he]
50	800	do.				7,3		97,3	22d May,
									1802.
	40000		,23593	9,8053	25,1908	181,16	272,06	90,8	

North above the south extremity 22,96 feet in perpendicular height.

At the commencement, the old chain (with which the measurement was made) exceeded the new one by nine divisions of the micrometer, equal to $\frac{0,043263}{12}$ feet. Therefore $100 + \frac{0,043263}{12} \times 400$ will be the measures in lengths of the new chain, equal 40001, 4420

At the conclusion, the old chain exceeded the new one by eleven divisions, consequently it had increased by wear two divisions of the micrometer = 0,0008 feet. Hence $\frac{0,0008}{2} \times 400 = 0,1600$ feet, is the correction for the wear, which add	+0, 1600
Whence the apparent length of the base, will be 400,016020 lengths of the new chain, ...	40001, 6020
The sum of all the corrections in column fourth for obtaining the horizontal distances, is 0,2359 feet, which must therefore be deducted	—0,2359
And this will give the apparent horizontal length of the base, in terms of the new chain 400,013661 lengths, or	40001,36661
The mean temperature for the whole base is 90°, 8 and the new chain was measured off when the thermometer stood at 50° hence to reduce the whole horizontal length to the standard temperature of 62°, the equation will be expressed by $\frac{(90°, 8 - 50°) \times 0,0074 - (62° - 50°) \times 00,1237}{12} \times$ 400,013661 feet, or 5,1162 feet which must be added, ...	+5,1162
Hence the whole horizontal distance corrected for 62° will be, ...	40006,4823
Which reduced to the level of the sea will be, ...	40006,4418

Note, the quantity +,0074 inches is the expansion of the chain due to 1° of the thermometer as determined by my own experiments detailed in the annexed memoir. By General Roy's experiments with the pyrometer, it was +,00763 inches.

The quantity +,01237 inches is the expansion of 100 feet of brass due to 1° of the thermometer.

By the experiments I made in the *Mysore* the expansion of the old chain was +,00725 inches due to 1°. By these experiments it is +,00737 inches, but I give the preference to the latter on account of the chains being fixed to the wall.

The radius of curvature for reducing the base to the level of the sea, is assumed at 3448748 fathoms being the radius to the meridional circle on which one degree is computed to be 60191 in the latitude of 13°.

Section II.—*Observations for determining the Angle which the Base Line makes with the Meridian.*

At the North end of the base latitude	13° 00 29″, 59 N.
September 24th, on the evening the polar star when at its greatest Eastern elongation was observed to make an angle North Easterly with the base line produced, ...	1° 35′ 08″, 7
The apparent polar distance of the star at that time was 1° 44′ 40″ 2 with which and the above latitude, the computed azimuth was, ...	1 47 25, 7

Therefore the line when produced Northerly will make an angle with the meridian North Easterly, ...	0	12	17, 0
September 26th, on the evening the angle North Easterly with the base line produced was, . . .	1	35	13, 1
The apparent polar distance on that day was, 1° 44′ 39″ 8 which will give the azimuth, . .	1	47	25, 2
Therefore the angle between the line and meridian will be, ...	0	12	12, 1
September 30th, on the evening the angle was observed, ...	1	35	06, 7
The apparent polar distance for that day being 1° 44′ 38″ 1 the azimuth will be, ...	1	47	23, 5
Hence the angle by this observation is, ...	0	12	16, 8
At the South end of the base—Latitude.	12	53	52, 8
October 7th. In the morning, the polar star when at its greatest western elongation, was observed to make an angle N. Westerly with the base line produced . . .	1	59	36, 9
The apparent polar distance at that time was 1° 44′ 35,7, and this with the above latitude will give the azimuth.	1	47	18, 2
Therefore the angle which this line produced, makes with the meridian North Easterly.	0	12	18, 7
And the mean of these four is . . .	0	12	16,15

The last observation was made under the most favourable circumstances, it being just day light;

the flag-staff at the north extremity of the line was observed immediately after the star; and the morning being perfectly clear, no unsteadiness or uncertainty arose from the effects of the vapour, which had occasioned the difference between the angles on the 24th and 26th.

When the observation was made on the 30th, a blue light was fixed at the south end of the base.

SECTION III.—*Commencement of the operations from the base. The large theodolite.*

After the completion of the base line, there remained nothing of importance to be done until I received the large instrument, which arrived in the beginning of *September*. I had however made an excursion down the sea coast, as far as *Pondicherry*, for the purpose of selecting the properest stations for determining the length of a meridional arc. This and the measurement of a degree at right-angles to the meridian I considered as the first object of this work: I accordingly lost no time in proceeding to accomplish these desiderata.

The instrument above alluded to was made by Mr. CARY, and is in most respects the same as that described by General ROY in the Philosophical Transactions for the year 1790, with the improvements made afterwards in the microscopes, and in an adjustment to the vertical axis, by which the circle can be moved up or let down by means of two capstan screws at the top of the axis. These are mentioned in the Philosophical Transactions for 1795, in the account of the trigonometrical survey. By sinking the circle on the axis, it is better adapted for travelling, and when the microscopes are once adjusted to minutes and seconds,

on the limb of the instrument, the circle can always be brought back to the proper distance from them. Great attention however is necessary in bringing the axis down, so that the wires in each microscope being fixed at opposite dots on the limb, they may coincide with the same dots when the circle is turned half round, or made to move entirely round, and in a contrary direction to what it had been moved before; which latter method has been recommended by the maker. This circumstance respecting the axis should be most scrupulously attended to before the adjustment of the micrometers begin, so that when by arranging the lenses in such a manner that ten revolutions of the micrometer may answer to ten minutes on the limb, and therefore one division to one second, the circle can always be brought to its proper height, by trying the revolutions of the micrometer.

It has however been found from experience, that unless in cases of very long and troublesome marches, it is not necessary to sink the axis. The carriage being performed altogether by men, there is not that jolting which any other mode of conveyance is subject to, and as I found, that a considerable time was taken up in adjusting the axis before the revolutions of the micrometers could be brought to their intended limits, I therefore laid it aside, unless under the circumstances above mentioned.

The semicircle of the transit telescope is graduated to 10′ of a degree in place of 30′, which was the case with the semicircle described by General Roy, and the micrometer to the horizontal microscope applied to this semicircle, making one revolution in two minutes, and five revolutions for ten minutes on the limb; and the scale of the micro-

meter being divided into sixty parts, each part is therefore two seconds of the circle.

A number of experiments have been made for determining the error of the semicircle, and to ascertain the place of the fixed wire in the horizontal microscope, so as to divide the error. It has appeared in the event, that the telescope being in its right position, (that is, when the limb and microscope were on the left hand,) and the fixed wire placed at Zero on the semicircle, when the circle or limb of the theodelite was turned 180° in Azimuth, and the telescope turned over, the fixed wire was then distant from Zero on the opposite part of the arc by a mean of a great many observations 2′ 57″, the half of which is therefore the error. This half was carefully set off from Zero by the moveable micrometer wire, and the fixed one brought to coincide with it. On the right application of this error, there will be 1′ 28″, 5 to add to the elevations and subtract from the depressions. The observations for determining this quantity were repeated at different times, and under the most favourable circumstances; the adjustments of the whole instrument being frequently examined, and the level applied to the telescope, reversed at most of the observations. For the line of collimation, as these corrections depend on having a well-defined object, I fixed a bamboo upwards of a mile distant from the observatory tent, and tied round it several narrow stripes of black silk, one of which was near the horizontal wire when the axis of the telescope intersected the staff after being brought to a level by the bubble. Then the instrument being adjusted, and the telescope directed to the bamboo, being perfectly level, and the wire of the micrometer in the piece brought to the intersection of the cross wires, the angular distance to the

mark on the bamboo was measured by the runs of that micrometer, and the wire brought back to the point of intersection of the other wires. The circle was then turned half round and the telescope reserved or put again into the same Ys. The levelling adjustment was then made, and the angular distance from the intersection of the wires to the black mark again taken, half the difference between which and the former was of course the error of collimation. This error was repeatedly reduced till it became very small, half by the finger screw of the clamp to the semicircle, and half by the adjusting screws to the levelling rods. After that, the remaining error was repeatedly examined and found to be 2″,36 to be subtracted from the elevations and added to the depressions when the telescope is in the ordinary position, or when the semicircle and microscope are on the left hand; but *vice versa* when in the contrary position. These errors of the semicircle and line of collimation being opposite, the result from comparison will be, "That when *elevations* or *depressions* are taken with the semicircle, 1′26″ must be added to the *former*, and subtracted from the *latter*."

And that when the elevations and depressions are taken by the micrometer in the eye piece 2″,36, must be *deducted* from the *elevations* and added to the depressions.

The micrometer in the focus of the eye-glass of the transit telescope is the same in all respects as the one mentioned by General Roy, that is to say, the circle or scale is divided into one hundred divisions, and there is a nonius fixed to the upper part of the telescope, which defines the revolutions of the micrometer as far as ten for the elevations and ten for the depressions. The following experiments

have been made with the same marked bamboo, for ascertaining the value of these divisions, and it has been found that seven revolutions and 61,4 divisions are equal to ten minutes on the limb of the semicircle, so that one division is equal to ,788 of a second.

TABLE

Of experiments for determining the valuation of the revolutions and divisions on the micrometer in the eye-piece of the telescope.

Month.	Micrometer Divisions.	No. of seconds.	Value of 1 Division.	Month.	Micrometer Divisions.	No. of seconds.	Value of 1 Division.
	d				d		
Nov. 26.	994,5	783,5	0,788	Nov. 26.	1000	780	0,780
	994	787	0,782			800	0,800
	994	773	0,777			787	0,787
	1005		0,788			794	0,794
	1002	794	0,794			788	0,788
						782	0,782
		Mean -	0,788				
						788	0,788

Hence one second will be equal to 1,269 divisions.
One minute . . . . 75,72 ditto.
Ten minutes . . . . . . 757,2 ditto.

SECTION IV.

Angles taken with the large theodelite between 27th *September* 1802, and 13th of *April*, 1803.

AT THE NORTH END OF THE BASE.

Between	*And*	*Observed Angles.*
		° ′ ″
South end of the base,	Mount station, . . .	91 09 04
	Perumbauk hill, . .	09 47 58,9
Perumbauk hill,	Mount station, . . .	81 21 05,2

AT THE SOUTH END OF THE BASE.

Between	*And*	*Observed Angles.* ° ′ ″
North end of the base,	Mount station, . .	11 19 32,5
	Perumbauk hill, . .	113 56 47,3
Mount station,	ditto, ...	102 37 14,8

AT THE MOUNT STATION.

North end of the base,	South end of the base,	77 31 23
	Perumbauk hill, . .	88 06 38,2
South end of the base,	ditto, ...	10 35 12,9
Perumbauk hill,	*Mungot* station, . .	92 30 03,6
	Mullapode hill, . . .	63 30 18,2

AT PERUMBAUK HILL.

North end of the base,	South end of the base,	56 15 26
	Mount station, . . .	10 32 16,8
South end of the base,	ditto, ...	66 47 42
Mungot station,	ditto, ...	36 58 15,1
	Coonoowaucum hill,	59 43 12,9
	Mullapode hill, . . .	42 52 13,9
Mullapode hill,	*Coonoowaucum* hill,	16 50 59

AT MUNGOT STATION.

Perumbauk hill,	*Coonoowaucum* hill,	88 03 47,6
	Mullapode hill, . . .	79 08 56,4
Mullapode hill,	*Tandray* station, . .	124 40 24,2
Munnoor station,	ditto, ...	75 25 54,8
Mount station,	*Perumbauk* hill, . .	50 31 41,7
Mullapode hill,	*Munnoor* station, .	49 14 29,4

AT MULLAPODE HILL.

Between	And	Observed Angles. ° ′ ″
Perumbauk hill,	*Coonoowaucum* hill,	139 29 07,8
Coonoowaucum hill,	*Munnoor* station, .	81 21 03,0
Tandray station,	ditto, ...	52 53 20,0
	Mungot station, . .	28 17 36,7

AT MUNNOOR STATION.

Mungot station,	*Coonoowaucum* hill, .	100 27 11,4
	Mullapode, ...	49 34 32,4
	Tandray station, . .	44 15 34,9
Mullapode hill,	ditto, ...	93 50 05,9
	Coonoowaucum hill,	50 52 39

AT TANDRAY STATION.

Mungot station,	*Munnoor* station, .	60 18 30,7
	Mullapode hill, . . .	27 02 00,1
Munnoor station,	ditto, ...	33 16 30,8
Mullapode hill,	*Urrumbaucum* hill,	94 00 01,7
	Poonauk hill, ...	80 48 38,8

AT URRUMBAUCUM HILL.

Mullapode hill,	*Tandray* station, . .	43 02 50
	Poonauk hill, ...	111 52 28,9

AT POONAUK HILL.

Mullapode hill,	*Urrumbaucum* hill,	39 25 15,6
	Tandray station, . .	27 13 47,4
	Maumdoor hill, . . .	49 19 0,46

AT POONAUK HILL.

Between	*And*	*Observed Angles.* ° ′ ″
Allacoor hill,	*Padree* station, . . .	23 52 57,5
	Urrumbaucum hill, .	32 18 50,7

AT ALLACOOR HILL.

Poonauk hill,	*Padree* station, . . .	91 22 13
	Urrumbaucum hill, .	110 08 22,3

AT PAUDREE STATION.

Poonauk hill,	*Allacoor* hill, ...	64 44 52,1

AT MULLAPODE HILL.

Poonauk hill,	*Tandray* station, . .	71 39 26,3
	Urrumbaucum hill, .	28 42 12,6
	Maumdoor hill, . . .	58 02 19
Tandray station,	*Urrumbaucum* hill, .	42 57 07,9
Perumbaucum hill,	MOWBRAY'S house, .	35 17 00
Maumdoor hill,	*Carrangooly* hill, . .	45 48 00,5

AT MAUMDOOR HILL.

Mullapode hill,	*Poonauk* hill, ...	72 38 40
	Carrangooly hill, . .	69 50 21,5
Carrangooly hill,	*Woritty* hill, ...	44 46 21,6

AT CARRANGOOLY HILL.

Mullapode hill,	*Maumdoor* hill, . .	64 21 44,1
Maumdoor hill,	*Woritty* hill, ...	80 37 28,3
Permacoil hill,	ditto, ...	28 33 28,6
	Vellungcaud hill, . .	36 40 28,2

AT WORITTY HILL.

Carrangooly hill,	*Maumdoor* hill, . . .	54 36 13,1
	Permacoil hill, . . .	109 25 09,4
Permacoil hill,	*Coonum* hill, ...	17 46 10,3

AT PERMACOIL HILL.

Between	And	Observed Angles. °	′	″
Woritty hill,	*Carrangooly* hill, . .	42	01	25,1
	Coonum hill, ...	134	51	00,6
Coonum hill,	1st flag on red hill, .	53	13	11,8
Vellungcaud hill,	*Carrangooly* hill, . .	28	58	23,4
	New station on red hill,	98	29	08,8
Mooratan station,	ditto ditto, . .	15	57	39,8
	Chengcaud station, .	42	57	14,4
Mylum station,	ditto ditto, .	29	29	41,3

AT VELLUNGCAUD HILL.

Permacoil hill,	*Carrangooly* hill, . .	114	21	15,4
	New station on red hill,	37	15	17,4

AT THE NEW STATION ON RED HILL.

Permacoil hill,	*Vellungcaud* hill, . .	44	15	33,8
	Mooratan station, .	99	25	04,4

AT MOORATAN STATION.

Chengcaud station, . . .	*Permacoil* hill, . . .	85	13	36,0
	Trivandepoorum hill,	64	42	38,5
1st *Coonum* hill,	1st flag on red hill,	81	48	30
	Chengcaud station, .	54	33	15
New station on red hill, .	*Permacoil* hill, . . .	64	37	21,4

AT THE FIRST FLAG ON RED HILL.

Coonum hill,	*Permacoil* hill, . . .	38	54	56,4
	Station near *Mooratan*,	76	26	03,1

AT COONUM HILL.

Permacoil hill,	*Woritty* hill, ...	27	22	53,3
	1st flag on red hill, .	87	51	51,8

Between	*And*	*Observed Angles.* ° ′ ″
1st flag on red hill, . . .	Station near *Mooratan*,	21 45 26,9
Chengcaud station, . . .	ditto, ...	76 02 09,3

AT MYLUM STATION.

Permacoil hill,	*Chengcaud* station, .	129 25 52,8
	Mooratan station, .	73 09 50,7
	Woritty hill, ...	46 21 11,4

AT CHENGCAUD STATION.

Permacoil hill,	*Mylum* station, . .	21 04 26,9
	Mooratan station, .	51 49 03,6
Trivandepoorum hill,	ditto, . , . . .	66 08 35,2
Coonum hill, .	ditto, ...	49 24 35,75

AT THE STATION OF OBSERVATION AT TRIVANDEPOORUM HILL.

Mooratan station, . . .	*Chengcaud* station,	49 08 53,9
Referring light near *Tripnumbaucum*,	Polar star, west elongation,	
	February 3, .	11 29 43,25
	4, .	44,9
	5, .	44,33
	7, .	40,5
	9, .	42,2
	10, .	39,6
	11, .	43,67
Referring light near *Tripnumbaucum*,	Blue light on *Mooratan* station, . .	7 57 45,36

The angles in general have been taken three and four times, and every time that the object was observed, both microscopes were read off thrice, and two separate field books kept for making out the angles. What are here recorded, are the means taken from the two books. In case a difference in those angles, noticed at the time, left any reason to suspect an error in the instrument, the division between the dots was carefully examined, as well as those to the right and left, and if any error was discovered, allowance was made accordingly.

SECTION V. TRIANGLES.

North End of the Base from the South End of the Base 40006,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
1.	North end of the base,	91 09 04,0	—,03			91 09 04,2	
	South end of the base,	11 19 32,5	—,02			11 19 32,6	
	Mount station,	77 31 23,0	—,03			77 31 23,2	
		179 59 59,5	,08	,08	—,58	180 00 00	
	Mount station from { North end of the base,						8046,7
	Mount station from { South end of the base,						40965,8
		° ′ ″	″			° ′ ″	
2.	North end of the base,	9 47 58,9	—,01			9 47 58,8	
	South end of the base,	113 56 47,2	—,08			113 56 47,2	
	Perumbauk hill,	0 0 0				56 15 14	
				,07		180, 00 00	
	Perumbauk hill from { North end of the base,						439718
	Perumbauk hill from { South end of the base,						818903

North end of the Base from Perumbauk *Hill* 43971,8.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	North end of the base,	81 21 05,2	—,03			81 21 05,1	
3.	*Perumbauk* hill,	10 32 16,8	—,02			10 32 16,8	
	Mount station,	88 06 38,2	—,03			88 06 38,1	
		180 00 00,2	,08	,08	+,1	180	
	Mount station from { North end of the base,						8046,7
	Mount station from { *Perumbauk* hill, - -						43495,4

South End of the Base from Mount Station 40965,8.

		° ′ ″	″			° ′ ″	
	South end of the base,	102 37 14,8	—,06			102 37 14,7	
4.	Mount station,	10 35 12,9	—,02			10 35 12,9	
	Perumbauk hill,	0 0 0	—,01			66 47 32,4	
						180	
	Perumbauk from { South end of the base,						8189,2
	Perumbauk from { Mount station, - -						43495,5

It appears from examining the above triangles, that there is a difference in the distance from the north end of the base and Mount station, by the first and second triangles, and also a difference in the distance from the south end of the base to *Perumbauk* hill. It may be necessary to notice here, that there was great difficulty in taking all these angles, on account of the very thick vapour which constantly floated near the surface of the flat where the base line runs, almost immediately after daylight, to very near the time of sun-setting. All the angles, and particularly at the north and south end of the base line, have been repeatedly taken, and the only time when the flag-staff appeared distinctly, was in the morning of the 7th of *October*,

when I observed the polar star at the south end of the base line.

It was discovered, that at *Perumbauk* hill, there had been an error in reading off the south end of the base, most probably of 10″ from the micrometers, as all the angles which had a reference to that point, exceeded what they ought to have been by ten or twelve seconds. In consequence of this disagreement, I chose to take the supplemental angle in the second and fourth triangles, after the other angles had been corrected. The distance of the north end of the base from *Perumbauk*, as determined in the second triangle, being taken as a base in the third triangle, wherein the three angles have been observed to determine the distance from *Perumbauk* to the *Mount*, and from the north end of the base to the *Mount*, it appears that the latter distance comes out within 0,4 of a foot to what had been brought by the first triangle; and that the distance from the south end of the base to *Perumbauk* hill, derived from the second and fourth triangles, differ only ,14 of a foot. The distance from the *Mount* to *Perumbauk* being that from which all the operations are to commence, I wished to be as particular as possible in determining it, and the results from the third and fourth triangles make it 43495,4 and 43495,5, differing only one-tenth of a foot.

Mount station from Perumbauk *Hill* 43496,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mount station,	92 30 03,6	—,18			92 30 03,4	
5.	*Perumbauk* hill,	36 58 15,1	—,08			36 58 15	
	Mungot station,	50 31 41,7	—,08			50 31 41,6	
		180 0 0,4	—,34	,″3	+,1	180	
	Mungot station from { *Perumbauk* hill, - -						56292,1
	{ Mount station - - -						33886,8

Perumbauk *Hill from* Mungot *station* 56292,1.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Perumbauk hill,	42 52 13,9	—,16			42 52 13,3	
6.	*Mungot* station,	79 08 56,4	—,25			79 08 55,7	
	Mullapode hill,	57 58 51,5	—,17			57 58 51	
		180 0 01,8	—,58	,59	+1,4		
	Mullapode hill from { *Perumbauk* hill, - -						65205,2
	Mungot station, - -						45169,5

Perumbauk *Hill from* Mullapode *Hill* 65205,2.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Perumbaucum hill,	16 50 59	+,3			16 50 59,5	
7.	*Mullapode* hill,	139 29 7,8	—,9			139 29 07,0	
	Coonoowaucum hill,	0 0 0				23 39 53,5	
				1,22			
	Coonoowaucum hill from { *Perumbauk* hill, - -						105534,6
	Mullapode hill, - -						47088,5

Mullapode *Hill from* Coonoowaucum *Hill* 47088,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mullapode hill,	81 21 03,0	—,2			81 21 02,8	
8.	*Coonoowaucum* hill,	0 0 0	—,10			47 46 18,3	
	Manoor station,	50 52 39,0				50 52 38,9	
						180 00 00,0	
	Manoor station from { *Mullapode* hill, - -						44944,4
	Coonoowaucum hill, -						60006,6

Mullapode *Hill from* Mungot *station* 45109,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mullapode hill,	81 10 56,8	—,21			81 10 57,4	
9.	*Mungot* station,	49 14 29,4	—,13			49 14 29,8	
	Munnoor station,	49 34 32,4	—,14			49 34 32,8	
		179 59 58,6	—,48	,48	—,2	180	
		Munnoor station from { *Mullapode* hill, - -					44944,3
		{ *Mungot* hill, - - -					58633,6
		° ′ ″	″			° ′ ″	
	Mullapode hill,	28 17 36,7	+,04			28 17 36,4	
10.	*Mungot* station,	124 40 24,2	—,6			124 40 23,6	
	Tandray station,	27 02 00,1	—,1			27 02 00	
		180 0 01		,42	×,3		
		Tandray station from { *Mullapode* hill, - -					81731,9
		{ *Mungot* station, - -					47105,3

Mullapode *Hill from* Munnoor *station* 44944,3.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mullapode hill,	52 53 20	—,2			52 53 21	
11.	*Munnoor* station,	93 50 5,9	—,3			93 50 08	
	Tandray station,	33 16 30,8	—,1			33 16 31	
		179 59 56,7		,7	—,4	180	
		Tandray station from { *Mullapode* hill, - -					81732,7
		{ *Munnoor* station, -					65325,7

Mungot *station from* Munnoor *station* 58633,7.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mungot station,	75 25 54,8	—,3			75 25 54,5	
12.	*Munnoor* station,	44 15 34,9	—,2			44 15 35	
	Tandray station,	60 18 30,7	—,2			60 18 30,5	
		180 00 00,4		,64	—,2	180	
	Tandray station from *Mungot* hill, - - -						47105,9
	Tandray station from *Munnoor* station, -						65325,4

In the quadralateral formed by *Mullapode* hill, *Mungot* hill, *Munnoor* station, and *Tandray* station, the side *Mullapode* and *Tandray* is common to the tenth and eleventh triangles, the first of which gives it 81731,9 feet, and the latter 81732,7 feet, the mean of which is 81732,3 feet, which becomes the base for extending the triangles westerly. These results appear to be sufficiently correct, since the bases on which the two triangles have been formed, were derived from the different sides of the triangle *Perumbauk* hill, *Mungot* hill, and *Mullapode* hill, viz. one from the side *Mullapode* hill and *Mungot* hill, the other from the side *Mullapode* hill and *Perumbauk* hill, on which was computed the side *Mullapode* hill and *Coonoowaucum* hill, and from that again the side *Mullapode* hill and *Munnoor* station, which, however, came out the same as when obtained from the distance *Mullapode* hill and *Mungot* hill.

It will also appear that in the triangle computed on the base *Mungot* hill and *Munnoor* station, that each of the sides, *Munnoor* station and *Tandray* station, and *Mungot* and *Tandray* become common to the triangles, *Mullapode* hill, *Munnoor* and *Tan-*

dray and *Mullapode* hill, *Mungot* and *Tandray*, each to each, and that in the first case, there is a difference of $\frac{3}{10}$ and in the second of $\frac{6}{10}$ of a foot. These circumstances will, I conceive, prove the operations to be sufficiently satisfactory.

Mullapode *hill from* Tandray *station* 81732,3.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
13.	*Mullapode* hill, *Tandray* station, *Urrumbaucum*,	42 57 07,9 94 00 01,7 43 02 50	—,4 —,8 —,4			42 57 08,2 94 00 01,6 43 02 50,2	
		179 59 59,6		1,6	—,2	180	
		Urrumbaucum from { *Mullapode* hill, - -					119444,7
		{ *Tandray* station, - -					81587,1
		° ′ ″	″			° ′ ″	
14.	*Mullapode* hill, *Tandray* station, *Poonauk mullah*,	71 39 26,3 80 48 45,7 27 31 47,4	—1,1 —1,3 —0,8			71 39 25,2 80 48 44,4 27 31 50,4	
		179 59 59,4		3,2	—3,8	180	
		Poonauk hill from { *Mullapode* hill, - -					174555,7
		{ *Tandray* station, -					167839,7

Poonauk *hill from* Urrumbaucum *hill* 90339,4.

		° ′ ″	″			° ′ ″	
15.	*Poonauk* hill, - *Urrumbaucum*, *Allicoor* hill, -	32 18 50,7 0 0 0 110 8 22,3	—,1 —,5			32 18 51 37 32 47 110 8 22	
				0,67			
		Allicoor hill from { *Poonauk* hill, - -					58638,4
		{ *Urrumbaucum* hill, -					51436,9

Poonauk *hill from* Allicoor *hill* 58638,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Poonauk hill,	23 52 57,5	—,09			23 52 57	
16.	*Allicoor* hill,	91 22 13	—,2			91 22 13	
	Paudree station,	64 44 52,1	—,08			64 44 51	
		180 2,6		,37	+2,2	180	
		Paudree station from *Poonauk* hill, - - -					64815,7
		Paudree station from *Allicoor* hill, - - -					26248,9

Mullapode *hill from* Urrumbaucum 119444,7.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mullapode hill,	28 42 12,6	—,3			28 42 12,6	
17.	*Urrumbaucum*,	111 52 33,6	—1,9			111 52 32,3	
	Poonauk hill,	39 25 15,6	—,8			39 25 15,1	
		180 1,8		2,4	—,9	180	
		Poonauk hill from *Mullapode* hill, - -					174554,3
		Poonauk hill from *Urrumbaucum* hill, -					90339,4

Mullapode *hill from* Poonauk *hill* 174555.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mullapode hill,	58 02 19	—1,5			58 2 18	
18.	*Poonauk* hill,	49 19 4,6	—1,5			49 19 3,5	
	Maumdoor,	72 38 40	—1,9			72 38 38,5	
		180 00 3,6		4,9	—1,3	180	
		Maumdoor from *Mullapode* hill, - -					138685,5
		Maumdoor from *Poonauk* hill, - - -					155157,2

Maumdoor *hill from* Mullapode 138685,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Maumdoor hill,	69 50 21,5	—1,2			69 50 19,5	
19.	*Mullapode* hill,	45 48 0,5	—1			45 48 58,5	
	Carrangooly hill,	64 21 44,1	—1,2			64 21 42	
		180 6,1		3,4	+2,7	180	
		Carrangooly hill from { *Maumdoor* hill, - -					110182,4
		Carrangooly hill from { *Mullapode* hill, - -					144405,4

Carrangooly *hill from* Maumdoor *hill* 110282,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Carrangooly hill,	80 37 28,3	—1,1			80 37 27	
20.	*Maumdoor* hill,	44 46 21,6	— ,7			44 46 20,5	
	Wooritty hill,	54 36 13,1	— ,7			54 36 12,5	
		180 00 03		2,5	+,5	180	
		Wooritty hill from { *Carrangooly* hill, -					95282,8
		Wooritty hill from { *Maumdoor* hill, - -					133481,5

Wooritty *hill from* Carrangooly *hill* 95282,8.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Wooritty hill,	109 25 09,4	—1,1			109 25 07,7	
21.	*Carrangooly* hill,	28 33 28,6	—,22			28 33 27,8	
	Permacoil hill,	42 01 25,1	—,13			42 01 24,5	
		180 00 3,1		1,4	+1,7	180	
		Permacoil hill from { *Wooritty* hill, - -					68041,5
		Permacoil hill from { *Carrangooly* hill, -					134236,4

Carrangooly *hill from* Permocoil *hill* 134236,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Carrangooly hill,	36 40 28,2	—0,1			36 40 26	
22.	*Permacoil* hill,	28 58 23,4	—0,1			28 58 22	
	Vellungcaud	114 21 15,4	—1,2			114 21 12	
		180 00 07,0		1,4	+5,6	180 00 00	
		Vellungcaud from { *Carrungooly* hill, -					71374,2
		Permacoil hill, - -					88004,7

Permacoil *hill from* Vellungcaud *hill* 88004,7.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Permacoil hill,	93 29 08,8	—,9			93 29 08	
23.	*Vellungcaud*,	37 15 17,4	—,3			37 15 17	
	New station,	0 0 0				44 15 35	
				1,6		180 00 00	
		New station on red hill from { *Permacoil* hill, - -					76334,1
		Vellungcaud hill, -					124716,7

Wooritty *hill from* Permacoil *hill* 68041,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Wooritty hill,	17 46 10,3	+,1			17 46 09	
24.	*Permacoil* hill,	134 51 00,6	—,9			134 50 58,5	
	Coonum hill,	27 22 53,3	+,3			27 22 52,5	
		180 00 4,2		,5	+3,7	180 00 00	
		Coonum hill from { *Wooritty* hill - - -					104887,5
		Permacoil hill, - -					45150,5

Permacoil *hill from* Coonum *hill* 45150,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Permacoil hill,	53 13 11,8	—,2			53 13 11,5	
25.	*Coonum* hill,	87 51 51,8	—,3			87 51 51,5	
	1st Flag on red hill,	0 0 0				38 54 57	
				,6		180 00 00	
	First Flag on red hill from	*Permacoil* hill, - -					71825,3
		Coonum hill, - - -					57567,7

Permacoil *hill from* Wooritty *hill* 68041,5.

		° ′ ″	″			° ′ ″	
	Permacoil hill,	102 06 30,9	—,50			102 06 30,9	
26.	*Wooritty* hill	0 0 0				31 32 18,3	
	Mylum station,	46 21 11,4	—,13			46 21 11,3	
				,77			
	Mylum station from	*Permacoil* hill, - -					49184,8
		Wooritty hill, - -					91939,0

Permacoil *hill from* Mylum *station* 49184,8.

		° ′ ″	″			° ′ ″	
	Permacoil hill,	72 26 53,3	—,34			72 26 53	
27.	*Mylum* station,	73 09 50,7	—,34			73 09 50,4	
	Mooratan station,	0 0 0				34 23 16	
						180 00 00	
	Mooratan station from	*Permacoil* hill, - -					83351,9
		Mylum station, - -					83030,3

Coonum *hill from first Flag on red hill* 57567,7.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
28.	*Coonum* hill,	0 0 0				21 45 27	
	1st Flag on red hill,	76 26 03,1	—,1			76 26 03	
	Mooratan station,	81 48 30	—,1			81 48 30	
				0,29		180 0 0	
	Mooratan station from { *Coonum* hill, - - -						56538,5
	{ First Flag on red hill,						21559,1

Permacoil *Hill from the new station on red hill* 76334,1.

		° ′ ″	″			° ′ ″	
29.	*Permacoil* hill,	15 57 39,8	—,1			15 57 38	
	New station,	99 25 04,4	—,28			99 25 2,4	
	Mooratan station,	64 37 21,4	—,04			64 37 19,6	
		180 00 5,6		0,42	+5,18	180 0 0	
	Mooratan station from { *Permacoil* hill, - -						83348,4
	{ New station on red hill,						23231,9

Permacoil *hill from* Mooratan *station* 83350,15.

		° ′ ″	″			° ′ ″	
30.	*Permacoil hill,*	42 57 14,4	—,4			42 57 16,2	
	Mooratan station,	85 13 36	—,6			85 13 37,6	
	Chengcaud station,	51 49 04,4	—,4			51 49 06,2	
		179 59 54,8		1,4	—6,6	180 00 00	
	Chengcaud station from { *Permacoil* hill, - -						105668,2
	{ *Mooratan* station, -						72254,7

Coonum *hill from* Mooratan *station* 56538,5.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Coonum hill,	0 0 0				76 02 09,5	
31.	*Mooratan* station,	54 33 15	—,2			54 33 15	
	Chengcaud station,	49 24 35,7	—,2			49 24 35,5	
				0,8		180 00 00,0	
	Chengcaud station from *Coonum* hill, - - -						60654,3
	Chengcaud station from *Mooratan* station, -						72252,9

Mooratan station *from Chengcaud* station 72253,8.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for calculation.	Distances in feet.
		° ′ ″	″			° ′ ″	
	Mooratan station,	64 42 38,5	—,5			64 42 35	
32.	*Chengcaud* station,	66 8 35,2	—,5			66 8 32	
	Trivandepoorum,	49 8 53,9	—,4			49 8 53	
		180 00 7,6		1,4	+6,4	180 00 00	
	Trivandepoorum from *Mooratan* station, -						87360,7
	Trivandepoorum from *Chengcaud* station, -						86367,6

The angles have been taken with much care, and I believe with as much accuracy as the nature of such a process admits of; difficulty, however, very frequently arose from the haziness of the weather, which rendered the objects at the very distant points extremely dull, and occasioned some irregularity in the angles. Whenever that happened, the observations were often repeated, and in case any one, in particular, was different from the other so much as ten seconds, it was rejected till the three angles of the triangle had been observed. If the sum of these angles was near what it

ought to be, no further notice was taken of it; but should the sum of the three angles be nearer the truth by taking it into the account, and that there appeared an irregularity in the other two observed angles, I have made it a rule to take each observed angle as a correct one, and divide the excess or defect between the other two, and then compute from the given side the other two sides; and after doing the same thing with each of the angles successively, a mean of the sides thus brought out was taken, which, to certain limits, will always be near the truth. I then varied the selection of the observed angles, rejecting such as I had reason to doubt; and by correcting them, and computing the two required sides of the triangle, those which gave the sides nearest to what had been brought out by the other method, were adopted, let the error be what it would. This, however, has rarely happened; and when it did, great precaution was used; and no angle was rejected without some reason appeared to render it doubtful.

In correcting the observed angles to obtain those made by the chords, I have used the formula given by the Astronomer Royal, in his demonstration of M. De Lambre's problem, which appears in the Philosophical Transactions for 1797. The spherical excess is of course had from the well known method of dividing the area of the triangle in square seconds, by the number of seconds in the arc equal to radius, where the number of feet in a second may be had by using the degree as has been commonly applied to the mean sphere, or the mean between the degree on the meridian and its perpendicular. This being of no further use than to check any error that might happen in computing the corrections for the angles.

In converting the sides of the triangles into arcs,

the length of a degree has been computed for every ten degrees from the meridian to its perpendicular on an Ellipsoid, whose diameters were in the ratio of one to 1,0067, which is derived from taking the degree on the meridian, in latitude 50° 41′ to be 60851, and the degree perpendicular thereto 61182, in the same latitude. These data would give the meridional degree, in latitude 13°, to be 60191, and the degree perpendicular equal 60957, which, however, is not the case; but no sensible error will arrive in making those corrections from taking the arcs a few seconds more or less than the truth.

SECTION VI.

Reduction of the distances to the meridian of Trivandeporum, *for determining the length of the terrestrial arc.*

The sides of the great triangles, from which the arc is derived, falling very nearly in the same meridian, and not more than 16363,3 feet west from the meridian of *Trivandeporum*, the south extremity of the arc, there required no reference to any hypothesis of the earth's figure for getting the exact distance between the parallels, so that the latitude of a point where a great circle falling from the station of observation near *Paudree*, will cut the meridian of *Trivandeporum* at right angles, may be determined with sufficient accuracy by computing spherically, and the distances, when reduced to the meridian, (the distance from *Trivandeporum* to *Coonum* hill excepted,) may be considered as the chords of arcs on the meridian, and therefore the arcs themselves may be had, by allowing 60494 fathoms to the degree, as had been obtained from the sum of those reduced distances, the sum therefore of all these arcs will make the whole meridional arc, which is a nearer approximation to the truth.

Seeing that a line drawn from the station of observation at *Paudree*, to the station at *Maumdoor* hill, would fall nearly in the direction of the meridian, that distance has been computed, by taking the sides *Poonauk* hill to *Maumdoor* hill, and *Poonauk* hill to *Pâdree*, and using the internal angle at *Poonauk* hill, corrected for the chords. This, however, was scarcely necessary, except for shewing the arrangement of the points.

The following table will shew the arrangement of the sides, and their reduction to the meridian of *Trivandeporum*.

Stations at	Stations referred to.	Bearings referred to the meridian of *Trivandeporum*.	Distances.	Distances from the parallels of the	
				Meridian.	Perpendicular.
ivandeporum,	*Coonum* hill,	5 31 50,3 N. W.	125129,1	12059,8 W.	124547,5 N.
num hill,	*Wooritty* hill,	0 03 18,4 N. W.	104887,5	108,3 W.	104887,4 N.
oritty hill,	*Carrangooly*,	52 45 21,9	95282,8	75851,4 E.	57666,0 N.
	Maumdoor,	1 50 51,2 N. W.	133481,5	4303,5 W.	133412,5 N.
umdoor,	*Paudree* station,	1 02 09,7 N. E.	211512,1	3824,4 E.	211477,5 N.

THE NORTHINGS REDUCED TO ARCS.

Trivandeporum to *Coonum* hill, . .	124548,77
Coonum hill to *Wooritty* hill, .	104887,47
Wooritty hill to *Maumdoor* hill, .	133413,15
Maumdoor hill to *Paudree* station,	211478,57
Length of the terrestrial arc, . . .	574327,96
Or fathoms, ...	95721,3266

SECTION VII.

Observations by the Zenith Sector for the latitude of Paudree *station, and the station near* Trivandeporum; *and the length of the celestial arc.*

The zenith sector, with which these observations have been taken, was made by Mr. Ramsden, and is the one alluded to by General Roy, in the Philosophical Transactions for 1790, being then unfinished. The radius of the arc is five feet, and the arc itself is of that extent to take in nine degrees on each side of the zenith. It is divided into degrees, and smaller divisions of 20′ each, which are numbered. Each of these last is again subdivided into four, of 5′ each. The micrometer which moves the telescope and arc, is graduated to seconds, and one revolution moves the arc over 1′ 10″ 08‴, but the scale being large, a small fraction of a second can be easily defined. The construction, and improvements to the zenith sector, are so well known, that a minute description of it here would be unnecessary. It will therefore suffice to say, that as far as so delicate an instrument can be managed in a portable observatory, or travelling tent, which never can offer the advantages of a fixed, well contrived building, I have every reason to be satisfied with it.

The time I commenced observing at *Paudree* station was during the heavy part of the monsoon, which occasioned frequent interruptions: and although I had intended observing by at least three fixed stars, I only succeeded to my satisfaction in one, which was *Aldebaran.* With that star I had a fortunate succession for about sixteen nights; some few of those observations being less favourable than the others, were rejected, and the rest, from which the latitude was determined, appear in the following table, arranged in the order in which they were taken.

During the time I was at *Trivandeporum*, near *Cuddalore*, the weather was settled and serene, and the nights perfectly clear, so that I had an unlimited choice of stars, but having been successful with *Aldebaran*, I chose that star for determining the length of the arc.

As I consider the celestial arc more likely to be erroneous than any terrestrial measurement, I have thought it necessary to give some account of the manner of observing and of adjusting the instrument, for after two years experience, I have found, that notwithstanding the great powers of the zenith sector, extreme delicacy and attention are requisite to render the observations satisfactory. The following method of adjustment I have always practised. After having brought the vertical axis nearly to its true position by the adjusting screw at the bottom, or so that the wire of the plummet would bisect the same dot when the telescope was moved to the opposite side, or half round on the axis, I then examined whether the dot at the centre of the horizontal axis was bisected, and whether the wire moved in the vertical plane clear of the the axis; for unless it be perfectly free, all the observations will be false. When I had bisected the dot, I either took out the microscope and looked obliquely, or did the same by a magnifying glass, and by that means I could discover the smallest parallax. If it admitted being brought nearer to the axis, it was done; but I found from experience, that it was more eligible to leave the wire at a sensible distance than to bring it very near. Having satisfied myself in this particular, I examined with the microscope again in front, moved the wire freely in the vertical plane, and then bisected the dot. The telescope was then moved, so that the wire was brought over the dot zero on the arc, and the same precaution used with respect to the wire mov-

ing free of the arc; and here, as well as above, I found it best to allow a sensible distance between the wire and the arc.

The microscope by which the upper dot in the horizontal axis is examined, being fixed by the maker, the axis of vision is of course at right angles to the vertical plane, and will meet that plane in the centre of the axis, but the lower microscope is moveable, and requires care to fix it so as to have the wire in the axis of vision, and be free from the effects of parallax, this I have done by moving it along the brass plate in front of the arc, till the wire appeared free from curvature, and then adjusted the dot. In these late observations, I have generally made the final adjustment by the light of a wax taper, for the wind being sometimes high and troublesome, I found there was much irregularity in the observations, until I adopted that method. I therefore closed the doors and windows of the observatory tent, so as to have a perfect stillness within. The distance of the wire from the axis and the arc is likewise better defined by a taper by noticing the shadow in moving the light to the right and left.

In fixing the instrument for the star, great care was taken to have it placed in the meridian, which was done by a mark at near the distance of a mile, (generally one of my small flags), the polar star, having been previously observed by the large theodolite for that purpose. The telescope was then moved in the vertical till the wire of the plummet was at the nearest division on either limb to the zenith distance of the star, which could always be nearly known. The micrometer, having been put to zero, was firmly screwed, and the dot on the limb carefully bisected, the instrument was turned half round; the adjustment examined and correct-

ed, if necessary. That being done, the degrees and minutes, &c. on the arc were noted down, as was also the particular division on the micrometer scale, at which the index stood, and the fractional part of a division in case there were any. In this state every thing remained to within fifteen or twenty minutes of the time the star was to pass, when I repaired to the tent, and again examined whether the wire bisected the dot; if it did not, the instrument was again adjusted to the same dot, and the horizontal axis also examined by the upper microscope, all this being done, the sector was placed in the meridian.

When the star entered the field of view, the micrometer was moved gently till the star was near the horizontal wire, but not bisected till it came near the vertical, that the micrometer might not be turned back, but continue moving in the same direction. This I did to avoid any false motion in the micrometer screw, and I was led to this precaution by the repeated experiments I had made in examining the divisions on the arc, for it sometimes happened after moving the arc over one of the divisions till the wire bisected the next dot; and then turning it back again, that the index of the micrometer was not at the same second, but had passed over it perhaps one, and sometimes two seconds; but by moving over the next five minutes in the same direction, the number of revolutions and seconds were always what they ought to be, to some very small fraction. This anomaly, however, only happened in some situations of the screw, and to avoid any errors arising therefrom, I adopted the above method.

The zenith distance of the star being now had, on one part of the arc or limb, after the same process had been gone through the next night, with regard to the adjustment, the zenith distance was

taken on the other part of the arc, by turning the instrument half round on its vertical axis. The mean of these two was therefore the true observed zenith distance, and half the difference was the error of collimation. For applying these to the purpose in question, the mean of the zenith distances being corrected for refraction, the declination of the star for each of these nights, was corrected for nutation, aberration, &c. to the time of observation, and the mean of the two taken for determining the latitude.

In this manner has the whole series of observations been continued, by turning the sector half round every night, for the purpose of observing on opposite parts of the arc, and each compared with its preceding and succeeding one. In pursuing this method, it was unnecessary to notice the error of collimation for any other purpose than as a test to the regularity of the observations; for until they became uniform, no notice was taken of the zenith distances, concluding that there had been some mismanagement, or some defect in the adjustment.

The following tables contain the observations by the star *Aldebaran*, for determining the length of the arc.

Observations at the station near Paudree.

Day of the month.	Mean of the zenith distance on each arc.	Mean of the corrected declinations.	Latitude.
	° ′ ″	° ′ ″	° ′ ″
Nov. 23d and 24th,	2 46 32, 5	16 06 20,70	13 19 48,20
24th and 25th,	2 46 32,46	16 06 20,69	13 19 48,23
25th and 26th,	2 46 31,78	16 06 20,68	13 19 48,90
30th and 1st *Dec.*	2 46 31,60	16 06 20,61	13 19 49,01
Dec. 1st and 2d,	2 46 32,60	16 06 20,60	13 19 48,0
2d and 3d,	2 46 32,90	16 06 20,58	13 19 47,68
12th and 13th,	2 46 30,96	16 06 20,39	13 19 49,43
13th and 14th,	2 46 28,57	16 06 20,36	13 19 51,79
Error of collima. applied. } 27th,	2 46 29,71	16 06 19,64	13 19 49,93
		Mean	13 19 49,018

Observations at the station near Trivandeporum.

Day of the month.	Mean of the zenith distance on each arc.	Mean of the correct declinations.	Latitude.
	° ′ ″	° ′ ″	° ′ ″
February 10th and 11th,	4 21 27,14	16 06 18,00	11 44 50,86
11th and 13th,	4 21 24,04	16 06 17,93	11 44 53,89
13th and 14th,	4 21 23,04	16 06 17,87	11 44 54,83
14th and 15th,	4 21 25,10	16 06 17,83	11 44 52,73
15th and 16th,	4 21 26,73	16 06 17,79	11 44 51,06
16th and 17th,	4 21 25,60	16 06 17,75	11 44 52,15
24th and 25th,	4 21 24,17	16 06 17,44	11 44 53,27
25th and 26th,	4 21 25,17	16 06 17,40	11 44 52,23
26th and 27th,	4 21 25,04	16 06 17,37	11 44 52,33
		Mean	11 44 52,59

Latitude of the station near *Paudree* 13 19 49,02 —
Latitude of the station near *Trivandeporum* 11 44 52,59

Difference of latitude, *nearly*. 1 34 56,43

The latitude of a point where a great circle passing through *Paudree* station, and cutting the meridian of *Trivandeporum* at right angles, will be 13° 19′ 49″,02 —, from which deduct the latitude of the station at *Trivandeporum*, equal 11° 49′ 52″,59, will leave 1° 34′ 56″,43, or 1°,58233 nearly; by which divide the number of fathoms in the terrestrial arc = 95721,3266, &c. we shall have 1° = 60494 fathoms, nearly, for the degree in the middle of the arc, or latitude 12° 32′ nearly.

APPENDIX.

Since the account of the meridional arc was made out, I have completed the measurement of a degree perpendicular to the meridian in latitude 12° 32′ nearly, which is derived from a distance of fifty-five miles and upwards, between *Carangooly* and *Curnatighur;* two stations nearly east and

west from each other; and the following triangles have been made use of to obtain that distance.

Distance, Carangooly *from* Permacoil 134236,4.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for computation.	Distances in feet.
		° ′ ″	″	″	″	° ′ ″	
33.	*Carangooly,*	38 00 53,47	−0,74			38 00 53	208418,2
	Permacoil,	103 08 30,05	−2,64			103 08 27,5	131808,9
	Maillacherry Droog,	38 50 42,44	−1,71			38 50 39,5	
		180 00 05,96		4,08	+1,88	180 00 00,0	

Carangooly *from* Maillacherry Droog 208418,2.

No.	Stations.	Observed Angles.	Diff.	Spher. Excess.	Error.	Angles for computation.	Distances in feet.
		° ′ ″	″	″	″	° ′ ″	
34.	*Carangooly,*	30 44 38,7	−1,3			30 44 37,0	291189,3
	Maillacherry Droog,	105 42 14,3	−5,1			105 42 09,0	154625,8
	Curnatighur,	43 33 15,1	−1,0			43 33 14,0	
		180 00 08,1		7,4	+0,7	180 00 00,0	

The distance from *Curnatighur* to *Maillacherry* has also been brought out from a northern series of triangles derived from the side of *Poonauk* hill and *Maumdoor* hill, of the great triangle *Maumdoor, Poonauk,* and *Mullapode* hill: the triangles are *Poonauk, Maumdoor* and *Hanandamulla; Hanandamulla, Maumdoor,* and *Telloor; Telloor, Hanandamulla* and *Curnatighur; Curnatighur, Telloor* and *Maillacherry Droog.* Upon the distance from *Curnatighur* to *Maillacherry* as a base, the distance from *Curnatighur* to *Carangooly* has been computed, and differs only two feet from that derived from the side *Carangooly* and *Maillacherry Droog:* but there was some variation in the angles taken at *Poonauk* hill, which renders it doubtful, for the present, which to select; I have therefore relied on the single distance given in the thirty-fourth triangle.

Of the Polar Star Observations at Carangooly *and* Curnatighur, *and the Length of a Degree, perpendicular to the Meridian, deduced therefrom, for the Latitude of* 12° 32′ *nearly.*

As the method of determining the difference of longitude of two places, by taking the angle with the meridian and each station reciprocally, requires very great accuracy, I have thought it necessary to give an account of the observations for that purpose, and to state at the same time, the difficulty of taking them, particularly at *Curnatigur*, whose great height subjected it to a constant haziness, whereby the blue lights at *Carangooly* were repeatedly fired without effect, appearing too faint to be seen when the wires of the telescope were illuminated: some nights, however, were favourable, when the whole of the lights were distinctly seen; but the anxiety, which occurs on such occasions, will sometimes cause irregularities in the angles; a few on that account, when the lights expired before the observations were thought sufficiently satisfactory, have been rejected. Those which appear in the following account, are such as I have deemed good, though there is a greater difference among them than I could have wished. But as I had no positive reason for setting them aside, I have accordingly used them; and have endeavoured to lessen the error, by increasing the number of observations, at *Carangooly*, between the polar star, at its greatest western elongation, and the referring lamp at *Sallawauk*.

	°	′	″
March 20, in the evening, ...	0	34	48,4
21, ...			52,9
22, ...			52,8
23, ...			48,8
25, ...			50,2
26, ...			48,0
27, ...			46,9
29, ...			45,4

Between the Lamp at Sallawauk *and the Blue Light at* Curnatighur.

March 30,	. . .	84° 38′ 24″,0
	. . . .	23 ,55
April 4,	. . . .	19 ,2
	. . . .	20 ,0
	. . . .	22 ,62

Mean . . . . . . 84° 38′ 21″,87

TABLE. *Containing the apparent Polar Distances of the Star, and the apparent Azimuths for the Nights of Observation; and also the Angles between the referring Lamp and the Meridian of* Carangooly.

March 1803.	Apparent Polar dist.	Latitude.	Apparent Azimuth.	∠ Star and Lamp.	∠ Pole and Lamp.
20	1 44 22,32	12° 32′ 12″,27	1 46 55,32	0 34 48,4	2 21 43,72
21	1 44 22,62		1 46 55,63	0 34 52,9	2 21 48,53
22	1 44 22,88		1 46 55,90	0 34 52,8	2 21 48,70
23	1 44 23,16		1 46 56,18	0 34 48,8	2 21 44,98
25	1 44 23,71		1 46 56,72	0 34 50,2	2 21 46,92
26	1 44 24,01		1 46 57,05	0 34 48,0	2 21 45,05
27	1 44 24,28		1 46 57,33	0 34 46,9	2 21 44,23
29	1 44 24,82		1 46 57,89	0 34 45,4	2 21 43,29
				Mean - -	2 21 45,67
Observed angle between the lamp and *Curnatighur*, -					84 38 21,87
Observed angle meridian of *Carangooly* and *ditto*, - -					87 00 07,54

Observations at Curnatighur, *between the Polar Star, at its greatest eastern Elongation, and the referring Lamp at* Maudimungalum.

May 14, in the morning,	. . .	82° 26′ 25″,6
15,	. . . .	25 ,2
16,	. . . .	25 ,6
20,	. . . .	28 ,29
21,	. . . .	26 ,1

Between the referring Light and the Blue Lights at Carangooly.

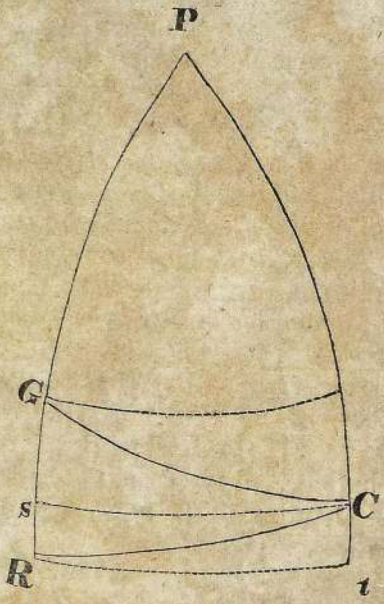
May 18,	. . . . . .	8° 35′ 34″,50
	. . . .	36,30
	. . . .	40,10
	. . . .	42,0
	. . . .	41,25
	. . . .	38,20
	. . . .	35,57
	. . . .	38,40
	Mean	8 35 38,26

TABLE. *Containing the apparent Polar Distances of the Star, the apparent Azimuths for the Time of Observation, and also the Angles between the referring Lamp and the Meridian of* Curnatighur.

May 1803.	Apparent Polar dist.	Latitude.	Apparent Azimuth.	Angle Star and Lamp.	Angle Pole and Lamp.
	° ′ ″		° ′ ″	° ′ ″	° ′ ″
13	1 44 36,4	12° 34′ 38″,87	1 47 10,76	82 26 25,6	84 13 36,36
15	1 44 36,78		1 47 11,15	82 26 25,2	84 13 36,35
16	1 44 36,96		1 47 11,34	82 26 25,6	84 13 36,94
20	1 44 37,68		1 47 12,08	82 26 28,29	84 13 40,37
21	1 44 37,85		1 47 12,25	82 26 26,1	84 13 38,35
				Mean - -	84 13 37,67
Observed angle between the lamp and *Carangooly*,				- - +	8 35 38,26
Observed angle meridian of *Curnatighur* and *Carangooly*,					92 49 15,93

If the mean of all the angles be taken, the observed angle at *Carangooly*, between the meridian and *Curnatighur*, will be 87° 00′ 07″,54; and the observed angle at *Curnatighur*, between that meridian and the station at *Carangooly*, will be 92° 49′ 15″,93. In order, therefore, to correct these angles for spherical computation, it will first be necessary to ascertain the distance between the parallels of *Carangooly* and *Curnatighur*, so that the one being known, the other may be obtained.

Let *PC* and *PG* be two meridians, and let *C* and *G* be the stations at *Carangooly* and *Curnatighur*. Let *Cs* be a parallel of latitude at *C*, meeting the meridian of *Curnatighur* produced, and let *CR* be a great circle perpendicular to the meridian of *Carangooly* falling from that place, till it meet *PG* produced in *R*.



Now *GCR* is a spheroidical triangle, and the chord of the arc *GC* is given from the thirty-fourth triangle; and since the angle *PGC* is known, the angle *CGR* is known, being equal 180° *minus* the observed angle at *Curnatighur*, or 87° 10′ 44″,07.—And by the same reasoning the angle *GCR* will be given, being equal the angle *PCR* (90°) *minus* the observed angle at *Carangooly*, that is 2° 59′ 52″,46—Hence, by first considering this as a plane triangle, and taking the angle at *R*, the supplement to the other two, the sides *CR* and *GR* may be obtained, and used as arcs for correcting the angles at *C* and *G*, which will then be 2° 59′ 52″,2 and 87° 10′ 43″,79 respectively, which are the angles made by the chords of the arcs *CG* and *RG* at *C* and *G*. Hence the supplement to these (89° 49′ 24″,01) will be the angle at *R* made by the chords of the arcs *RC* and *RG*. From these data will be had *RC*=290837,8, and *RG*=15228,74 feet.

But to find the small space *R*s on the meridian of *Curnatighur*, between the perpendicular arc and parallel from *Carangooly*, let the triangle *CR*s be taken as a plane one. Then if to the corrected angle *CR*s (89° 49′ 24″,01) be added the supplement to the spherical excess in the triangle *RCG* (0″,5), we shall have 89° 49′ 24″,51 for the angle s*RC*. Draw *Rt* parallel to s*C*, meeting the meridian of *Carangooly*, produced in *t*. Then since the angles *PtR* and *P*s*C* are equal by construction; and the triangles s*CR*, *CRt* considered as plane ones, the angle *CRt* is equal half the difference of the angles *PCR* and *PRC*, that is = $\frac{90^\circ - (89^\circ\ 49'\ 24'',51)}{2}$ = 0° 5′ 17″,74. Hence is given the two angles *CR*s, s*CR*, and the side *CR*, by which the small side *R*s is had, equal to 448,02 feet, which, deducted from *GR*, gives *G*s= 14780,72 feet, equal to an arc of 2′ 26″,58 on the meridian, and this is the difference of the latitudes of *Carangooly* and *Curnatighur*. Hence if the latitude of **Carangooly* be 12° 32′ 12″,27, that of *Curnatighur* will be 12° 34′ 38″,85, and their respective complements will be 77° 27′ 47″,73 and 77° 25′ 21″,15. Hence in the triangle *PCG*, on the spheroid, is given the two sides *PG* and *PC*, the co-latitudes of *G* and *C*, and the two observed angles *PCG* and *PGC*.

Then as the tan. 77° 26′ 34″,44 (half the sum of the sides *PG* and *PC*) to tan. 0° 1′ 13″,29 (half their difference) so is tan. 89° 54′ 41″,73 (half the sum of the angles), to tan. 2° 56′ 10″,23 (the half

---

* When the polar star observations were made at *Carangooly*, no double azimuths could be taken, and therefore the latitude of the place was necessary to compute the azimuths, in order to get the direction of the meridian. As I wished to deduce the latitude of *Carangooly* from that of the observatory at *Madras*, the following method was used to obtain it.

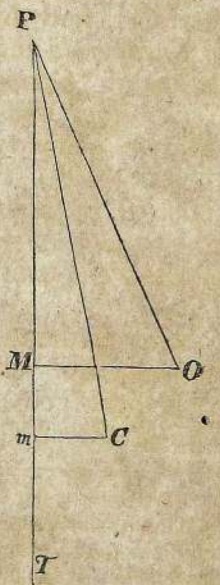
Let *P* be the pole, *PT* the meridian of *Trivandeporum*, *O* the observatory at *Madras;* and let *C* be the station at *Carangooly*, *T* that at *Trivandeporum*, *OM* an arc of a great circle, perpendicular to *PT*, falling from the observatory, and *Cm* another perpendicular arc from *Carangooly*. Then if the ratio of the earth's diameters be taken as 1 to 1,003567, and the degree on the me-

difference of the angles). Therefore 92° 50′ 51″,96 and 86° 58′ 31″,5, will be the angles at *Curnatighur* and *Carangooly*, such as would have been observed on a sphere, the latitudes and longitudes being the same. Then by using these angles, with the sides PC and PG, and computing spherically, the angle CPG, or difference of longitude, will be 48′ 47″,75, with which, and the side PC, or co-latitude of *Carangooly*, in the triangle PCR, right angled at C, the side CR will be had equal 0° 47′ 37″,45.

Now the chord of this arc is the distance CR, equal 290837,8 feet, and therefore the arc itself is 290841 feet nearly. Hence 47′ 37″,45 : 290841 :: 60′ : 366355,08 feet, or 61059,2 fathoms nearly, which is the length of the degree perpendicular to the meridian at *Carangooly* *.

---

ridian be 60494 fathoms; by using these data, and computing on the elliptic hypothesis, the degree perpendicular to the meridian 12° 32″ would be 60906 fathoms, which for the present purpose is made use of.



By the triangles, the point O is east from the meridian of *Trivandeporum* 190561,12 feet, and north from the perpendicular at that station 480563,62 feet. Also C is east 63690,8 feet, and north 287100,96 feet, from which, and applying the above degrees, we shall have the arc TM 1° 19′ 26″,4; Tm = 47′ 27″,56; and therefore = Mm 31′ 58″,84. Also OM 31′ 17″,13, Cm = 10′ 27″,42, and PO 76° 55′ 56″,7, the latitude of the observatory being 13° 04′ 09″,3.

Then in the spherical triangle POM, right angled at M, we have Cos OM : Rad :: Cos. PO : Cos PM = 76° 55′ 48″,72, to which add the arc Mm, there will be had Pm = 77° 27′ 47″,56, the co-latitude of the point m.

Then again as rad. : Cos Cm :: Cos mP : Cos PC = 77° 27′ 47″,77; therefore the latitude of *Carangooly* will be 12° 32′ 12″,23.

* The ratio of the earth's diameters has been determined, by using the degree as brought out here, and the one in latitude 50° 41′, as deduced from the measured arc between Greenwich and Paris, which is 60851 fathoms; and these two give the ratio of the polar to the equatrial diameters to be 1 : 1,003567, supposing the earth to be an ellipsoid.

POSTSCRIPT.

Since the above has been written, the triangles derived from the side *Maumdoor* and *Poonauk*, and brought down westerly as far as *Woritty*, have been computed, and it appears that the distance between *Maumdoor* and *Woritty*, which is common to both series, exceeds the former by 6,9 feet; so that the mean of the two, equal 133485,0 feet, has been taken for obtaining anew both the meridional and perpendicular arcs; the former of which is 574337,04 feet, and the latter 290848,5 feet; whence the degree on the meridian will be had 60495 fathoms nearly, and the degree perpendicular to the meridian at *Carangooly* 61061 fathoms nearly.

The difference of 6,9 feet is more than what I expected, but it has been occasioned by the great difficulty in getting the angles in the great triangle, *Maumdoor*, *Mullapode*, and *Poonauk*. But as it appears that the side *Mullapode* and *Maumdoor* has been in excess, and the side *Poonauk* and *Maumdoor* in defect, it must follow that the mean distance of *Maumdoor* and *Woritty*, brought out by triangles derived from these two sides, must be very near the truth.

Now this latitude has been made use of to find the latitude of *Curnatighur*, and the same process has been followed for finding the length of a degree on the perpendicular in the latitude of *Carangooly* as is here given; and that degree taken, with the easting of the observatory from the meridian of *Carangooly* to compute the latitude a second time, which came out 12° 32′ 12″,27, and is here applied for re-computing the perpendicular degree: but the difference is too trifling to affect the difference of longitude, and therefore the degree comes out the same.

It is scarcely necessary to notice, that the distance of the observatory from the meridian of *Trivandepoorum* being so trifling, no spheroidal correction has been thought requisite for obtaining the latitude of the point *M*, and much less for that of *C*.

A Sketch
of the Triangles
from which the
Meridional & Perpendicular Arcs
have been derived.
Naggery nose
Latde of Paudree Station by Aldebaran · 13. 19. 49. 2
Allicoor hill
Urrumbaucum hill
Poonauk hill
Tandray
FORT St GEORGE
Observatory
Sholangur hill & Pag.
Curnatighur
Meridian of Trivandeporum
Meridian of Carangooly
Meridian of Curnatighur
Mannoor
Mongot
St Thomas' Mount
Base
Thurunda-mulla
Mullapode hill
Perumbauk hill
VELLORE DROOG
Kalhasghur
Conoorvaucum hill
Covelong
Maandoor hill
Carangooly hill
SADRAS
Tellore hill
Chittepet hill
Wooritty hill
Velhungcaud hill
ALLAMPERVA
Maillacherry Droog
Trinomally
Permacoil
Mylum Station
Coonum hill
1st Flag Hill
Red Hill
New Stn
Mooratan Statn
Chengcaud
PONDICHERRY
Late of Trivandeporum Station by Aldebaran · 11. 44. 52. 59
CUDDALORE
British Miles
1 5 10 15 20 25

VI.

On the Hindu *Systems of* ASTRONOMY, *and their connection with History in ancient and modern times.*

BY J. BENTLEY, ESQ.

IN my last paper on the antiquity of the *Súrya Siddhánta*, published in the sixth volume of the *Asiatic* Researches, I endeavoured to explain, in as simple a manner as possible, the principles on which the *Hindu* artificial systems of astronomy are founded. It was my intention to have postponed the present paper until I should procure several valuable works, which, through the assistance of my friends, I am endeavouring to collect from different parts, which would enable me to give a more perfect and satisfactory account of the ancient astronomy and history of *India*, than I can at present; but having lately, by chance, seen the first number of the *Edinburgh* Review, wherein the writer has thought proper to attack my last paper, I feel it incumbent on me to come forward as early as possible, to repel his observations, and to shew how little he is acquainted with the matters he pretends to review.

The Reviewer says—

" Mr. BENTLEY appears to be a mathematician of
" considerable industry and merit. In this disquisi-
" tion he has supplied some instructive observations
" on the principles of the *Hindu* astronomy, and on
" the manner in which their cycles were or might
" have been formed; he has also exhibited useful
" formulæ, shewing their application in discovering
" the actual position of the heavenly bodies.

" His discussion relative to the antiquity of the

" *Súrya Siddhánta*, involves points of the utmost
" importance; no less, indeed, than whether the
" whole of the *Sanscrit* literature shall be consider-
" ed as the spurious production of a recent age, or
" genuine monuments of primeval times. We shall
" endeavour to do justice to his formidable attack
" on the *Indian* gymnosophists.

" The *Súrya Siddhánta* is generally believed to be
" the most ancient astronomical treatise the *Hindus*
" have; and, according to their notions, was re-
" ceived by divine revelation 2,164,899 years ago.
" But the mean result of calculations, from ten dif-
" ferent data afforded by that work, and on its
" own principles of assuming the position of the
" heavenly bodies to have been accurately observed
" at the time it was written, gives only 731 for the
" date of its composition, or the year of our Lord
" 1068. But, independent of all calculations, an
" astronomical work, entitled the *Bhaswotee*, was
" composed 700 years ago by SOTONUND, who, ac-
" cording to *Hindu* accounts, was a pupil of VA-
" RA'HA MIHIRA. The commentary on this trea-
" tise declares, that VARA'HA was the author of the
" *Súrya Siddhánta*. Therefore any *Hindu* work, in
" which the name of VARA'HA is mentioned, must
" evidently be modern, and this circumstance alone
" totally destroys the pretended antiquity of many
" of the *Purans* and other books, which, through
" the artifices of the *Bráhminical* tribe, have been
" hitherto deemed the most ancient in existence.
" Now all the other astronomical works Mr. BENT-
" LEY has seen, adopt the system in the *Súrya*
"*Siddhánta* by VARA'HA*.

---

* This must be a misrepresentation of the Reviewer, see page 546, 547, of Vol. VI. where I have mentioned and described other systems.
J. B.

" A work ascribed to PARASARA, a philosopher, " who is supposed to have lived before the *Vedás* " were arranged in their present form, exhibits a " still more manifest proof of forgery, since one of " the formulæ it exhibits mentions the æra of SACA, " which began Anno Domini 78."

After giving this outline, which is very defective in many respects, the Reviewer commences his attack as follows :—

" It would be easy to shew, that the circum- " stances so forcibly stated, by no means justify " the sweeping inference deduced by our author. " VARA'HA MIHIRA was never considered as an an- " cient writer; and is supposed, by Sir WILLIAM " JONES, to have flourished A. D. 499. That he " was the author of the *Súrya Siddhánta*, rests on " the single authority of the commentator of the " *Bhaswotee*, a work which seems to have been " composed in *Siam;* though we greatly wish Mr. " BENTLEY had imitated Sir WILLIAM JONES, on " such occasions, by inserting the original passage. " But on what authority does our author assume, " that the *Calpa*, or cycle of VARA'HA, is that of " VARA'HA MIHIRA, the modern astronomer? We " find the *Hindu* cycles always distinguished by " the names of different Deities. There is the DE- " ví *Calpa*, the SU'RYA *Calpa;* the present is the " VISHNU *Calpa*, and we entertain no doubt that " the VARA'HA *Calpa* derived that designation from " the VARA'HA *Avatar*, or incarnation of VISHNU, " in the form of a Boar, as is the universal opinion " of the natives. Now the name of VARA'HA MI- " HIRA unquestionably does not occur in the *Pu-* " *rans*, or in any work pretending to antiquity; " and we have seen in what light we are to consi- " der the VARA'HA *Calpa*."

That VARA'HA MIHIRA was the author of the *Súrya Siddhánta*, does not rest upon the single authority of the commentator on the *Bhaswotee*, but on several undeniable facts,—it is clearly shewn by the other works of VARA'HA, which bear his name, one of which, the *Játacárnava*, (JATOKARNOVO) is compared with the *Súrya Siddhánta*, at page 573, §. 72. Nay, the very circumstance to which the Reviewer himself alludes above, of VARA'HA being supposed to have flourished A. D. 499, ought to have led him to the same conclusion. For why is VARA'HA supposed to have flourished in A. D. 499? Because he had fixed the vernal equinox to the beginning of *Aswini* in that year, and settled the rate of precession to be from thence computed at 54″ annually: Now this is absolutely the case in the *Súrya Siddhánta*, as well as in all the other works of VARA'HA; and the same system, motions, and positions of the planets, given by that astronomer in those works which bear his name, are likewise the same in the *Súrya Siddhánta*. But, independent of all these undeniable facts, there is not a *Hindu* astronomer, who has the smallest pretension to the knowledge of the history of astronomy in *India*, that does not know that VARA'HA was the real author of the *Súrya Siddhánta*, and not only of that work, but also of the *Brahma Siddhánta*, the *Sôma Siddhánta*, the *Vasishta Siddhánta*, and the *Paulastya Siddhánta*, which are called the five *Siddhántas* of VARA'HA MIHIRA; and in allusion to which, one or more single works have been written under the title of "*Pancha Siddhánta*," as supposed to contain the essential parts of the five *Siddhántas* of VARA'HA.

The *Hindus*, in general, know very little about the time in which VARA'HA flourished. Some refer him to the æra of VICRAMADITYA, or fifty-six years before CHRIST, while others, from the cir-

cumstances abovementioned, refer him to A. D. 499, which shew how little they know of the real time he lived in, which was between seven and eight hundred years ago.

With respect to the different systems of astronomy which have been framed from time to time, there are but three now generally known, all of them modern. The first is the BRA'HMA *Calpa*, invented by BRA'HMA GUPTA, near 1300 years ago; the second, the PADMA *Calpa*, said to have been invented by a person of the name of SRÍ DHARA PADMA, or SRÍ DHARA PADMA NA'BHA, between eight and nine hundred years ago; and the third and last, the VARA'HA *Calpa*, invented by VARA'HA MIHIRA, between seven and eight hundred years ago. Hence it may be seen, that the different systems bear the names of their inventors, and not of the Deities; for there is no such Deity as PADMA, though there is a system of that name; therefore it must be sufficiently obvious to every candid mind, that these real systems of the astronomers, were the basis on which the writers of *Hindu* romance, or modern *Puránas*, erected their ideal ones of the BRA'HMA *Calpa*, the PADMA *Calpa*, and the VARA'HA *Calpa;* the two first of which they fancifully represent as past, and assert that we are now in the third or last. But the truth is, that none of these artificial systems are yet expired (except in the idea of visionaries), nor will be for many millions of years to come.

The number of years now elapsed of the first, ...	=1972948905
And there are yet to expire, . . .	2347051095
The years elapsed of the *Calpa* of VARA'HA, ...	=1955884905
And there remain yet to expire, .	2364115095

As to the systems which were in use before the in-

vention of these modern ones, and by which the *Hindus* regulated their history in ancient times, I shall notice them in their proper place.

I have nothing to do with visionary dreams of antiquity, nor with the ideal systems of the *Edinburgh* Reviewer, my object is truth. The *Edinburgh* Reviewer says, there is the DEVI *Calpa*, the SURYA *Calpa*, and the VISHNU *Calpa;* yes, and a great many more, which he will find in the *Tantras* and other books of the *Hindus;* as the GAN'ES'A *Calpa*, the PITRI *Calpa*, the SA'NTI *Calpa*, &c. But are these astrononomical systems? And if they are, upon what authority does he give them as such? For he does not vouchsafe to inform his readers where he found them. I am afraid the Reviewer has mistaken the sense of the word *Calpa*, which he will find to have many meanings. The *Hindu* astronomers whom I have consulted on the subject, and who certainly are the best judges in matters of this nature, positively deny that there are any such systems as mentioned by the Reviewer; that, on the contrary, they imply nothing more nor less than the particular form of worship directed for each Deity, &c.* and are to be found, in that sense only, in the *Tantras*, &c. Hence the reader may easily see in what light the DEVÍ *Calpa*, the SU'RYA *Calpa*, and the VISHNU *Calpa*, of the Reviewer, are to be considered.

No astronomical system can possibly have a name before it is invented: and whether such system is called by the name of its inventor, or whether fancy or caprice may call it by the name of any Deity, flower, mountain, or any thing else, still this can make no difference whatever with

* Some writers of romance may have adopted these names as so many systems, but they have nothing to do with real history or astronomy.

respect to the antiquity of the time in which the system was framed. If, therefore, the time in which any system was framed be known, (either from that of the inventor, or from the positions of the planets or other data, given in such system,) then I say, that any book in which the name of that particular system is mentioned, cannot possibly be older than the time the system was framed and obtained its name.

That system which is contained in the *Súrya Siddhánta* (though originally invented by VARA'HA MIHIRA), is now most certainly called the *Calpa* of VARA'HA, or of the Boar; but whether that system obtained its present name from the inventor, or whether fancy has had any share in it since, still this can make no difference, as it can neither encrease nor diminish the antiquity of the system; which, from computations founded on undeniable principles, I have shewn and demonstrated to be only between seven and eight hundred years old; and this I maintain to be true, whether VARA'HA MIHIRA was the inventor of the system or not.

Now since this system, called the *Calpa* of VARA'HA, or of the Boar, has been framed only between seven and eight hundred years, it follows indubitably that any work in which the *Calpa* is mentioned, cannot possibly be older than the time of its invention, but may be considerably less.

It was not necessary that the name of VARA'HA MIHIRA should occur in the *Puránas*, to prove them modern; for, putting VARA'HA and his system altogether out of the question, yet still the names, not only of the princes in whose reigns he lived, but also of several others, down to the last *Mahomedan* conquest, with the years of each reign, are to be found in some of the *Puránas;* a most certain proof, that these works are not the genuine

monuments of primeval times, as imagined by the Reviewer.——The Reviewer again says:—

"The mention of the era of *Saca*, in a work at-"tributed to PARA'SARA, is only decisive against "the passage; for we are satisfied, no work of "great antiquity can exist in a country where the "art of printing is unknown, free from interpola-"tion. The institutes of TIMUR are now acknow-"ledged to be genuine, and written under the di-"rection of that conqueror, though they are found "to contain an account of his own death. Some "copyist of the *Crisi Parasara* was acquainted with "an useful formulæ which he injudiciously inserted "in what he considered its proper place: did our li-"mits permit, we could distinctly prove, from con-"siderations unconnected with astronomy, that the "high antiquity attributed to the *Hindu* records is "founded on evidence of a nature *almost* conclusive."

It would appear then, if my pandit, or any other *Bráhmen*, should take it into his head to compose a book, and father it on some ancient philosopher, or *Rishi*, but, from ignorance or inadvertence, he should introduce some modern expressions into it, that, according to the notions of the Reviewer, the words by which the forgery would be detected are to be considered as interpolations only, and the rest of the work genuine, though a downright imposition. It seems the Reviewer is not aware of the difference between the style of the ancients and that of the moderns, by which we can in some measure form an opinion whether a work is forged or not. Neither does he seem to be aware that, if an ancient work is interpolated by some modern copyist, several other copies ought to be found free from the interpolation.

PARA'SARA is supposed to have lived near 3000 years ago, and from that time to the era of *Saca*

there were about 1300 years, during which a great number of copies of the *Crishi Parásara* might have been written in different parts of *India;* yet no copy has been ever yet seen, that does not contain the passages alluded to. But independent of this fact, (which is a strong proof of the whole being a modern forgery) the style of PARA'SARA, according to Sir WILLIAM JONES, resembles that of the *Vedá,* whereas that of the *Crishi Parásara* has not the most distant similitude; and, according to the information which I received respecting it, was composed by a pandit, not a great many years ago, at *Nuddea.* We know to a certainty, that books have been ushered into the world under different titles, as if written by different people, and at different periods immensely distant from each other, though composed by one person only. Of this we have an instance in the five *Siddhántas* of VARA'HA.

The most candid part of the *Hindus,* indeed, will acknowledge, that literary forgeries are thus frequently committed; yet, at the same time, they endeavour to palliate it by saying, that men are under the necessity of doing so, in consequence of the depravity of the age we live in, which can relish nothing but what is supposed to bear the stamp or appearance of antiquity. Hence, they say, learned men are sometimes under the necessity of fathering their works on the sages of antiquity, to obtain a due respect and attention to their precepts, which, otherwise, would not be attended to. And with respect to modern names or expressions occurring in such books, they are considered by the generality of the *Hindus,* rather as indubitable proofs of the gift of prophecy, which they firmly believe their ancient sages possessed, than as marks of forgery or interpolation. Hence every species of literary imposition may be committed without the smallest danger of detection.

With respect to those *considerations unconnected with astronomy*, from which the Reviewer says he could distinctly prove, "that the high antiquity "attributed to the *Hindu* records is founded on evi-"dence of a nature *almost* conclusive," we wish he had stated those *weighty* considerations, or told us where we might find them; for the astronomers and others now engaged in investigating the antiquities, arts, and sciences of *India*, are unwilling to take his *ipse dixit* for it; particularly as he had but the moment before totally destroyed the credibility of those very records he would wish to support, by saying, that "no work of any great antiquity can "exist in a country where the art of printing is un-"known, free from interpolation." How is it possible then, that they are to be considered as *ancient* records, when every line of them may be interpolated? who can pretend to judge of those parts which are genuine, and those which are not? for certainly it is not necessary that a part that is interpolated should have any date or mark annexed to it, by which it might be known; therefore the authenticity of works so interpolated, must be as fully to all intents and purposes destroyed, as if the whole were an actual forgery.

The Reviewer should only judge for himself,—for that evidence which he may think is of a nature *almost* conclusive, may be no evidence at all to others. And I am afraid, that unless his *gymnosophists* find a better advocate in their cause, their pretensions to superior antiquity, to arts, and to sciences, must soon fall to the ground.——Lastly, the Reviewer says,

"By exhibiting the mean result only, we have "given Mr. BENTLEY's argument an advantage to "which it is not entitled; the individual results "from each of the ten data vary from 300 to 1100

"years for the age of the *Súrya Siddhánta*. Hence "the only legitimate inference that can be deduced, "is either that the heavenly bodies were so inaccu-"rately observed by the author as to furnish no ba-"sis for calculation, or that the observations were "made at a period prodigiously anterior to that as-"sumed by Mr. BENTLEY. The first alone is admis-"sible, and in that we are disposed to acquiesce."

Lest, however, his readers should not be inclined to admit of such a conclusion, he endeavours to throw a suspicion on the whole thus:

"But when it is recollected how many collations, "researches, and ingenious conjectures have been "requisite to restore *Greek* and *Roman* writers to "their pristine sense, some enquiry would be ne-"cessary respecting the manuscript used by Mr. "BENTLEY, and the certainty of comprehending "his text, which he interprets differently from his "instructors. At present Mr. BENTLEY is involved "in the following dilemma, either that the obser-"vations of the heavenly bodies contained in the "*Súrya Siddhánta* are wholly erroneous, or that they "were not made at the period he conjectures."

The Reviewer had it fully in his power to have ascertained the fact, whether the copy of the *Súrya Siddhánta*, in my possession, was correct or not, by merely referring to a paper of Mr. DAVIS, in the second volume of the *Asiatic* Researches, page 232. He might have calculated the places of the planets from the numbers there exhibited, and compared them with those given by me; which would have shewn him whether I deviated from my *instructors* or not. If he found that I had committed a material error, or deviated from truth, he would then have been justified in exposing it to the world. On the other hand, if he found that it was right, it would have been equally his duty to have candidly

acknowledged it. For, as POPE very justly says, respecting the moral qualities of a good *Critic:*

'Tis not enough WIT, ART, and LEARNING join;
In all you speak, let TRUTH and CANDOUR shine.

It is much to be lamented, that the very reverse of this is but too often the case, and that men suffer their judgment to be biassed by their prejudices.

By exhibiting the mean result of ten different operations *, viz. 731 years for the age of the *Súrya Siddhánta*, the Reviewer conceived he did me more justice than I was entitled to; and therefore, to counteract it, as he thought, instead of giving the whole of the different results, from which his readers would be enabled to form a just opinion, he makes choice of the two extreme results, as differing most from the mean, and concludes from thence, that either the heavenly bodies were so inaccurately observed by the author as to furnish no basis for calculation, or that the observations were made at a period prodigiously anterior to that given by me.

Now, it must be immediately apparent to any man of common sense, that by taking the two extreme results only, no other inference could, consistently with truth, be drawn from thence, but that the work must have been written at some period between these extremes; the mean of which $=\frac{1105+340}{2}=722$ years.

In computations, depending on a number of observations, it is well known that astronomers reject such as are found to differ most from the mean results; for in all cases some of the data, from their

* These were the results which the Reviewer ought to have given his readers.

MOON's apogee, gave	605 years.	JUPITER,	875 years.
MOON's node,	580 ——.	SATURN,	805 ——.
SUN's apogee,	1105 ——.	MARS's aphelion,	641 ——.
VENUS,	860 ——.	Length of the year,	736 ——.
MARS,	340 ——.		
MOON,	759 ——.	Mean age,	731 ——.

nature, will be more erroneous, and less to be depended on than others. Had the *Edinburgh* Reviewer, therefore, adopted this plan, and rejected the extremes, 1105 and 340, as too incorrect, no fault whatever could be found with him for so doing; for the remaining eight results would still have been more than sufficient to answer the purpose required.

But his views, as may be easily seen, were to endeavour, if possible, to discredit any investigation that should in the smallest degree tend to open the eyes of the public with respect to the true antiquity of *Hindu* books; and therefore he asserts, that the heavenly bodies must have been so inaccurately observed by the author, as to furnish no basis for calculation, or that the observations were made at a period prodigiously anterior to that assigned by me. Why did he not point out what these errors were, that his readers might judge of the truth or falsehood of his assertions?

But in order to shew the fallacy of the Reviewer's argument, let us endeavour, if possible, to ascertain the quantity of the errors from the years only, on which the Reviewer grounds his notions.

The years are obtained by dividing the error in the position of the planet, at a certain instant, by the error in the mean annual motion, which, by its gradual accumulation, is supposed to have caused the error in position. Therefore, suppose we denote the error in position by x, and that in the mean annual motion by y, and that $\frac{x}{y}=1105$; it is required from thence, to determine the quantities x and y, which the *Edinburgh* Reviewer would wish to make his readers believe, must be so extraordinarily great as to leave no basis for calculation: I say it is absolutely impossible, nor does the nature of the case admit of such an unjust inference. For

any two quantities whatever, whether large or small, that are in the proportion of 1 : 1105, will give the same quotient. Thus, suppose $x=1105$ minutes, and $y=1$ minute, then, $\frac{1105'}{1'}=1105$. Again, suppose $x=1105$ seconds, and $y=1$ second, then, $\frac{1105''}{1''}=1105$, as before. Or, suppose $x=221''$, and $y=0, 2''$, then, $\frac{221''}{0,2''}=1205$, as before. Hence it evidently follows, that as 1105 may be deduced from any two quantities, however small, that are in the proportion of 1 : 1105, so may 340 from any other two quantities whatever, small or large, that are in the proportion of 1 : 340. It is, therefore, the heighth of absurdity to pretend to draw any conclusion relative to the supposed qnantity of error from the years exhibited; and if we wish to shew the errors, it must be done by a direct computation, and not by ideal notions or sophistry.

The Reviewer perhaps conceived that all the results should come out exactly the same; if so, it is more than he had a right to expect from the most correct *European* tables extant. If we examine the second edition of LA LANDE's tables, we shall find that one of the data will give us 318 years for the age of it, and another 243 years: but would this be a sufficient ground to assert, that either the heavenly bodies were so inaccurately observed by the author as to furnish no basis for calculation, or that the observations were made at a period prodigiously anterior to that assigned to LA LANDE's second edition? The error from which the 243 years arise, only amount to about one minute and half, which may shew the Reviewer, that he is not to *assume* the quantity of the error from the number of years. There are, perhaps, no astronomical tables in existence, that do not contain errors, but these errors are always less at or near the time the work is written than at any distant period whatever. Therefore, to put this matter out of dispute, I shall exhibit, in the

following table, the errors in the *Súrya Siddhánta* with regard to the places of the planets, &c. at different periods, by which may be known by inspection only, the period of time at or near which it was written.

TABLE

Of the errors in the Súrya Siddhánta, *with respect to the places of the Planets, &c. at the under-mentioned periods.*

Planets, &c.	*B. C.* 3102.*	*A. C.* 499.	*A. C.* 999.	*A. C.* 1499.	*A. C.* 5099.
	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
Moon,	5 52 34—	0 20 14—	0 01 02—	0 07 39+	3 43 37+
—— apogee,	30 11 25—	4 52 53—	1 21 59—	2 09 56+	27 27 28+
—— node,	23 37 31+	3 56 06+	1 12 01+	1 32 04—	21 13 29—
Venus,	32 43 36—	3 33 41—	0 29 22+	4 32 25+	33 42 20+
Mars,	12 05 42+	2 32 42+	1 13 08+	0 06 27—	9 39 27—
—— aphel.	9 47 00+	1 30 50+	0 21 55+	0 47 00—	9 03 11—
Jupiter,	17 12 36—	1 48 56—	0 24 20+	2 38 36+	18 01 45+
Saturn,	21 25 43+	2 50 09+	0 03 33—	2 54 05—	21 36 57—
Sun's apogee.	3 15 53+	0 05 45—	0 33 45—	1 01 45—	4 23 22—
B. C. Before Christ.—A. C. After Christ.					

By comparing the errors given in the preceding table at the different periods, with each other, it will appear, that they were least between seven and eight hundred years ago; which clearly demonstrates that the *Súrya Siddhánta*, was written at or near that time. For all astronomical works, whether founded on real or artificial systems, must necessarily give the positions of the planets nearer the truth, at, or about the time in which they were originally framed, than at any other distant period whatever either before or after.

With respect to the errors in the places of the planets as computed from the *Súrya Siddhánta*, they are not to be attributed to incorrect observations;

for they principally arise from the nature of the artificial system adopted by the author, which did not admit of a nearer approach to truth; in order to explain which, it is necessary to be observed, that in the *Hindu* artificial systems, the astronomers fix on a point of time back as an epoch, at which they assume the planets, &c. to have been in a line of mean conjunction in the beginning of *Aries* in the *Hindu* sphere. But as no period can be found, at which the planets were actually in a line of mean conjunction, it must be obvious, that the motions requisite to give the mean places of the planets when the system is framed, commencing from any such assumed epoch of mean conjunction, must deviate more or less from the truth. For, the mean motions of such of the planets, as were actually passed the position assumed, will come out greater, and those that fell short of it less than the truth, in proportion to the differences between the real and assumed mean places.

Thus:—suppose n, to be the number of years expired from the assumed epoch of mean conjunction at the time the system is framed, and let M, be the real mean annual motion of a planet deduced from observations or otherwise; then $M \times n$, would be the mean place of the planet at the end of n years from the epoch of assumed mean conjunction, provided the planet was in the position assumed. But if $M \times n$, was found to exceed or fall short of the real mean place of the planet at the end of n years, then, it is evident, that the planet was not in the position assumed at the epoch, and the motion must be encreased or diminished accordingly, so as to make it give the real mean position of the planet;—for instance, suppose that $M \times n$, fell short of the real position of the planet at the end of n years, by the quantity d,—then, $M + \frac{d}{n}$, would be the

mean annual motion required; but if $M \times n$, exceeded the real mean place by the quantity d, then $M - \frac{d}{n}$, would be the motion required. Hence, it must be evident, that the mean annual motions deduced on these principles, must be always affected by the differences between the real mean places of the planets, and that assumed at the epoch.

The motions requisite to give the real mean places of the planets being ascertained, the astronomer in the next place assumes, at pleasure, any convenient cycle of years, and assigns the number of revolutions of each planet in that cycle.

In computing the number of revolutions of each planet, in order to avoid fractions, he rejects such as are less than six signs, as of no consequence; and, for the rest, he takes the next greater entire number. Unless he may deem it necessary, in some instances, to encrease or diminish a little the motions; in which case, though the fraction may be under six signs, he may take the next higher number to encrease the motion, or if above six signs, he may reject it, to diminish the motion.

From the revolutions thus obtained, the mean places of the planets in the heavens are determined by the following proportion:—

As the number of years in the cycle assumed,
Is to the revolutions of any planet in that cycle;
So is the time expired from the epoch assumed,
To the planets mean longitude.

These are the principles on which the system given in the *Súrya Siddhánta*, as far as relates to the planets, is founded, and which I shall now proceed to demonstrate.

According to the *Súrya Siddhánta*, the planets are assumed to have been in a line of mean conjunction in the first point of *Aries* in the *Hindu* sphere, at the beginning of the *Cali Yug*; I shall therefore carry back the calculation to that time, in order to shew more clearly, the actual differences between the real mean places of the planets at that period, and that which was assumed, and the consequent effect thereof on the mean annual motions thence deduced.

The year 4900 of the *Cali Yug*, ended on the 12th of *April* 1799, at forty-five minutes forty-four seconds past nine P. M. on the meridian of *Lanka*; or fifty-one minutes forty seconds past four, P. M. on the meridian of *Paris*. The mean places of the planets at that instant of time were, according to the third edition of LA LANDE's tables, as follow:

	European sphere.				*Hindu* sphere.			
	s.	°	′	″	s.	°	′	″
SUN,	0	20	52	28,5	0	00	00	00,0
MOON,	3	22	55	09,3	3	02	02	40,8
VENUS,	2	24	06	14,0	2	03	13	45,5
MARS,	3	04	50	40,0	2	13	58	11,5
JUPITER,	1	29	58	02,1	1	09	05	33,6
SATURN,	3	24	16	56,1	3	03	24	27,6

The length of the *Hindu* year, according to the *Súrya Siddhánta*, is 365 days, 6 hours, 12 minutes, 36 seconds, 33 thirds, 36 fourths, in which time the sun is supposed to make one complete revolu-

NOTE—There being an error in the number of revolutions of Mercury, as given in the *Súrya Siddhánta*, it is here omitted.—See *Asiatic* Researches, volume VI, section 61, page 566.

tion in his orbit. The mean motions for which, according to LA LANDE's tables, are as follow :—

	European sphere.					Hindu sphere.				
	r.	s.	°	′	″	r.	s.	°	′	″
SUN,	1	0	00	00	58,671	1	0	00	00	00,000
MOON,	13	4	12	47	39,284	13	4	12	46	40,613
VENUS,	1	7	15	12	22,306	1	7	15	11	23,635
MARS,	0	6	11	25	17,822	0	6	11	24	19,150
JUPITER,	0	1	00	21	49,153	0	1	00	20	50,483
SATURN,	0	0	12	14	08,015	0	0	12	13	09,343

4900 *Hindu* years, of the above length, are equal to 1789767 days, 21 hours, 45 minutes, 44 seconds; or 4900 *Julian* years, 42 days, 21 hours, 45 minutes, 44 seconds; the mean motion for which, from LA LANDE's tables, are as follow :—

	European sphere.				Hindu sphere.			
	s.	°	′	″	s.	°	′	″
SUN,	2	19	51	27,5	0	00	00	00,0
MOON,	5	21	48	12,3	3	01	56	44.8
VENUS,	3	20	21	37,0	1	00	30	09,5
MARS,	5	15	55	21,0	2	26	03	53,5
JUPITER,	3	11	54	08,1	0	22	02	40,6
SATURN,	6	14	14	58,1	3	24	23	30,6

which motions being deducted from the mean longitudes at the end of the year 4900 of the *Cali Yug*, above determined, we shall have their respective mean positions at the beginning of the *Cali Yug*, the assumed epoch of mean conjunction, as follow :—

	European sphere.	*Hindu* sphere.
	s. ° ′ ″	s. ° ′ ″
SUN,	10 01 01 01	0 00 00 00
MOON,	10 01 06 57	0 00 05 56
VENUS,	11 03 44 37	1 02 43 36
MARS,	9 18 55 19	11 17 54 18
JUPITER,	10 18 03 54	0 17 02 53
SATURN,	9 10 01 58	11 09 00 57

Whence, it is evident, the planets were not in the position assumed. Now taking the differences between the positions above found in the *Hindu* sphere, and that which is assumed in the *Súrya Siddhánta*, noting those which were past the point assumed, with the sign +, and those which fell short of it, with the sign —, we shall have

		° ′ ″			
SUN,		00 00 00			
MOON,	+	00 05 56	=	+	356″
VENUS,	+	32 43 36	=	+	117816″
MARS,	—	12 05 42	=	—	43542″
JUPITER,	+	17 02 53	=	+	61373″
SATURN,	—	20 59 03	=	—	75543″

Now, since the planets were not in the position assumed, by the above differences, it is evident, that if we wish to calculate the mean places of the heavenly bodies, at the end of any number of years from this assumed epoch, we must take the above differences into the account, by adding those of the Moon, Venus and Jupiter, and subtracting those of Mars and Saturn :—Thus, if n, be any number of years whatever, then I say,

that the mean places of the planets at the end of *n* years, in the *Hindu* sphere, will be as follow :—

	r.	s.	°	′	″		°	′	″
SUN,	1	0	00	00	00,000	$\times n$			
MOON,	13	4	12	46	40,613	$\times n +$	00	05	56
VENUS,	1	7	15	11	23,635	$\times n +$	32	43	36
MARS,	0	6	11	24	19,150	$\times n -$	12	05	42
JUPITER,	0	1	00	20	50,483	$\times n +$	17	02	53
SATURN,	0	0	12	13	09,343	$\times n -$	20	59	03

Therefore, if we divide these by *n*, we shall have the mean annual motions requisite to give the same positions at the end of *n* years, as follow :—

Hindu sphere.

	r.	s.	°	′	″	
SUN,	1	0	00	00	00	
MOON,	13	4	12	46	40,613	$+ \frac{356''}{n.}$
VENUS,	1	7	15	11	23,635	$+ \frac{117816''}{n.}$
MARS,	0	6	11	24	19,150	$- \frac{43542''}{n.}$
JUPITER,	0	1	00	20	50,483	$+ \frac{61373''}{n.}$
SATURN,	0	0	12	13	09,343	$- \frac{75543''}{n.}$

Hence, it is apparent, that all *Hindu* books or tables, which assume a mean conjunction of the planets at the beginning of the *Cali Yug*, must necessarily give the motions of the Moon, Venus, and Jupiter, greater, and those of Mars and Saturn less, than the *Europeans* make them.

Let us now put this to the test with respect to the motions in the *Súrya Siddhánta*. I have al-

ready shewn, that the *Súrya Siddhánta* must have been written between seven and eight hundred years ago; we shall therefore call it the end of the year 4100 of the *Cali Yug*, or A. D. 999, which will be near enough for our purpose; then *n*, in the above formulæ, becomes 4100.

In the year A. D. 999, the corrections requisite to be applied to the Moon, Jupiter, and Saturn's mean places, on account of the inequalities in their respective motions arising from mutual attraction*, were

For the Moon,	— + 8′ 50″	= + 530″,0
For Jupiter,	— + 13 11,7	= + 791,7
For Saturn,	— − 31 48	= − 1908,0

These must be brought now into the formulæ as they could not, from being variable, be included in the mean motions. Hence, the mean motions requisite to give the mean places of the planets in A. D. 999, agreeing with *European* tables, are as follow:—

Hindu sphere.

	r.	s.	°	′	″	
Sun,	1	0	00	00	00	
Moon,	13	4	12	46	40,613	$+\frac{356''+530}{4100}$
Venus,	1	7	15	11	23,635	$+\frac{117816''}{4100}$
Mars,	0	6	11	24	19,150	$-\frac{43542''}{4100}$
Jupiter,	0	1	00	20	50,483	$+\frac{61373''+791'',7}{4100}$
Saturn,	0	0	12	13	09,343	$-\frac{75543''+1908''}{4100}$

which quantities being reduced, and compared with the motions given in the *Súrya Siddhánta*, we shall have

* See *Asiatic* Researches, Vol. VI. p. 568, § 64.

	From computation.					By the *Súrya Siddhánta.*				
	r.	s.	°	′	″	r.	s.	°	′	″
SUN,	1	0	00	00	00,00	1	0	00	00	00.00
MOON,	13	4	12	46	40,82	13	4	12	46	40,80
VENUS,	1	7	15	11	52,36	1	7	15	11	52,80
MARS,	0	6	11	24	08,53	0	6	11	24	09,60
JUPITER,	0	1	00	21	05,64	0	1	00	21	06,00
SATURN,	0	0	12	12	50,48	0	0	12	12	50,40

Here we have a most decisive proof of the principles on which the system given in the *Súrya Siddhánta* is founded, and consequently of the time at or near which that work was written: for the motions, above deduced from computation, scarcely differ half a second from those given in the *Súrya Siddhánta.* But these differences, small as they are, do not arise from errors in observation, but from the revolutions of the planets assigned to the cycle of years assumed by the author of the *Súrya Siddhánta.*

In the *Súrya Siddhánta*, the least cycle in which the planets are assumed to return to a line of mean conjunction in the beginning of Aries, is 1080000 years. Let the motions above found, therefore, be multiplied by this number, and we shall have

	Revolutions.	s.	°	
SUN,	1080000	0	00	in 1080000 years.
MOON,	14438334	0	06	———
VENUS,	1755593	7	18	———
MARS,	574207	1	09	———
JUPITER,	91054	8	12	———
SATURN,	36642	0	24	———

Now, taking the nearest entire numbers (except for Mars, which in order to increase its motion a little, take the next greater number), and we shall have

	From computation.		By the *Súrya Siddhánta.*	
SUN,	1080000	Revolut.	1080000	Revolut.
MOON,	14438334	——	14438334	——
VENUS,	1755594	——	1755594	——
MARS,	574208	——	574208	——
JUPITER,	91055	——	91055	——
SATURN,	36642	——	36642	——

The numbers from computation being the same as in the *Súrya Siddhánta*, the mean motions and positions of the planets, to be from thence deduced, must necessarily be the same also.

If the numbers above found, be multiplied by 4, we shall have the revolutions of the planets in a *Mahá Yug*, or 4320000 years: and if the revolutions in a *Máha Yug*, be multiplied by 1000, we get the revolutions in a *Calpa.*

The mode of applying the above numbers to practice, must be sufficiently obvious from the manner in which they are determined, as well as from the rule laid down at page 211. I shall, however, add here a few examples.

1st. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Cali Yug.*—

The revolutions of the Moon in the cycle of 1080000 years . . . } = 14438334

		s. ° ′ ″
Hence the longitude required, $=\frac{14438334+4100}{1080000}=54812$ Revol. . . .		2 9 48 0
By LA LANDE's tables, *Hindu* sphere, .	2s. 9° 41′ 10″	
Inequality (*see page* 216)	+ 8 52	
		2 9 50 2
Difference, the former short by . .		*0 0 1 2

Or thus—

2d. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Cali Yug*, reckoning the years from the beginning of the *Calpa* of VARA'HA.

The years expired of the *Calpa* of VARA'HA, at the beginning of the *Cali Yug*, .	=1955880000
Add	4100
Total years expired A. D. 999, .	1955884100
Hence, $\frac{14438334\times1955884100}{1080000}$ $=26147877686$ *rev.* . .	2s. 9° 48′ 00″

the Moon's mean longitude as before.

Or thus—

3d. Let it be required to determine the Moon's mean longitude, at the end of the year 4100 of the *Cali Yug*, reckoning from the end of the *Calpa*, as directed in the *Graha Yámul*.

The years in the whole *Calpa*, .	=4320000000
The years elapsed, as above, . .	=1955884100
Therefore to expire in A. D. 999,	2364115900
Hence, $\frac{14438334\times2364115900}{1080000}$ $=31605458313$ *revol.* . .	—9s. 20° 12′ 00″

---

* The difference of 1′ 2″ in the moon's place, arises from the rejection of the fraction 6° in forming the number of revolutions—the real quantity being 14438334 *rev.* 0s. 6°, instead of which 14438334 was taken as the nearest entire number—fractions not being admitted in the *Hindu* artificial systems, and the error produced in consequence $=\frac{4100\times6°}{1080000}=1′\,2″$ in A. D. 999. In A. D. 1040, the error was nothing; since that time it has encreased, and now amounts to upwards of eleven minutes.

which, substracted from twelve signs, leave	2	9	48	00

the longitude as before.

My intention in giving these examples, is to shew, that as the system is entirely artificial, it is immaterial whether we make the calculation from the beginning of the *Calpa*, the end of the *Calpa*, or any other period at which a mean conjunction of the planets in the first point of Aries, is assumed in the system; for the result must ultimately come out the same, either way.

By attending to the principles on which the motions given in the *Súrya Siddhánta* are founded, it must appear evident, that it could not give the places of the planets sufficiently correct, for any considerable length of time: for, as n, the number of years from the epoch of assumed mean conjunction (in the formula, page 215), varies, so must the mean annual motions depending thereon. Therefore those motions which would have given the positions of the planets sufficiently correct, when the *Súrya Siddhánta* was written, would not answer at present. This fact the *Hindu* astronomers discovered by some means or other, between two and three hundred years ago; they found, that in order to have the places of the planets sufficiently accurate, it was necessary to subtract three revolutions from those of Venus; two from those of Jupiter; and to add three revolutions to those of Saturn, in 1080000 years.

The works in which these corrections are given, are, the *Siddhánta Rahasya*, dated in 1513, *Saca*; *Graha Tarangini*, dated 1530; *Siddhánta Munjari*, dated 1531; and several others of modern date now in use.

These corrections appear to have been introduced about 245 years ago; therefore let us try how far they will agree with our formula, page 215. Let the time at which they were introduced, be supposed the end of the year 4660 of the *Cali Yug*, or A. D. 1559. Then substituting 4660 for n in the formula, we shall have the mean annual motions requisite to give the places of the planets at that time, agreeing with *European* tables as follow:—

	r.	s.	°	′	″
Sun,	1	0	00	00	00
Moon,	13	4	12	46	$40{,}613 + \frac{356''}{4660}$
Venus,	1	7	15	11	$23{,}635 + \frac{117816''}{4660}$
Mars,	0	6	11	24	$19{,}150 - \frac{43542''}{4660}$
Jupiter,	0	1	00	20	$50{,}483 + \frac{61373''}{4660}$
Saturn,	0	0	12	13	$09{,}343 - \frac{75543''}{4660}$

The corrections, on account of the inequalities in the motions of the Moon, Jupiter, and Saturn, being at this period inconsiderable, they are accordingly neglected, as of no consequence: therefore the above quantities being reduced and compared with the motions in the modern tables, we shall have

	From computation.					Modern *Hindu* tables.				
	r.	s.	°	′	″	r.	s.	°	′	″
Sun,	1	0	00	00	00,00	1	0	00	00	00,00
Moon,	13	4	12	46	40,70	13	4	12	46	40,80
Venus,	1	7	15	11	48,92	1	7	15	11	49,20
Mars,	0	6	11	24	09,81	0	6	11	24	09,60
Jupiter,	0	1	00	21	03,65	0	1	00	21	03,60
Saturn,	0	0	12	12	53,13	0	0	12	12	54,00

The agreement between which is sufficiently obvious. Let the motions above found be now mul-

tiplied by 1080000, the number of years in the assumed cycle, and we shall have

	Revolutions.	s.	°
SUN, . . .	1080000	0	0
MOON, . . .	14438333	11	0
VENUS, . .	1755590	9	6
MARS, . . .	574208	2	3
JUPITER, . .	91053	0	15
SATURN, . .	36644	3	00

Now taking the nearest entire numbers (except for Saturn, which, in order to encrease its motion a little, we take the next greater number), and we shall have

	From computation.	Modern *Hindu* tables.
SUN,	1080000 revol.	1080000 revol.
MOON,	14438334 ——	14438334 ——
VENUS,	1755591 ——	1755591 ——
MARS,	574208 ——	574208 ——
JUPITER,	91053 ——	91053 ——
SATURN,	36645 ——	36645 ——

Having thus, I hope, fully and clearly demonstrated the principles on which the *Hindu* artificial systems of astronomy are founded, and shewn that, according to these principles, the *Súrya Siddhánta* must have been written between seven and eight hundred years ago, and at no other period whatever; it must now be obvious to every candid mind, that the *assertions* of the *Edinburgh* Reviewer are totally unfounded.

The table exhibited in page 209, will shew how much he must have been mistaken in his notions with regard to the *basis of calculation*: For if there was no such *basis*, then the errors, or differences in that table, ought at every period to be the same,

neither *encreasing* nor *diminishing*; the contrary of which most clearly appears; for between seven and eight hundred years ago, the errors were *least*, and encrease gradually, whether we go back into antiquity, or forward from that period; which demonstrates, beyond the power of contradiction, that the work was written at or about that time.

The formation of the numbers, given in the *Súrya Siddhánta*, will shew likewise, that no other motions could have been given to correspond to the positions of the planets, with which they must agree. Therefore, I say, it is indispensibly requisite that the *Edinburgh* Reviewer, if he does not choose to acknowledge his error with the candour due from a gentleman, should distinctly point out to his readers, and the world at large, that precise period of time, so *prodigiously anterior* to that given by me, at which the *Súrya Siddhánta*, in his ideas, gave the positions of the heavenly bodies nearer the truth than between seven and eight hundred years ago. And not only point out the precise time, but also the then actual mean positions of the planets, &c. according to the *Súrya Siddhánta*, and the best modern *European* tables. It is by these means only he can convince his readers of his candour, truth, and abilities.

As I have, in the preceding pages, stated fully all that can be necessary respecting the principles of the *Hindu* artificial systems of astronomy, the *Súrya Siddhánta*, and the antiquity of the system it contains, I shall now take leave of the Reviewer, and proceed to other matters of more importance to those who wish to form a true judgment of the real antiquity of the *Hindu* history, &c.

Most of the *Eastern* nations, and the *Hindus* in particular, appear to have employed, from time

immemorial, artificial systems, not only in astronomy, but also for chronological purposes. Therefore, to form a just idea of the *Hindu* history and its antiquity, a knowledge of these systems, and of the various changes that have taken place from time to time, is absolutely necessary.

Two of the most ancient *Hindu* systems now known, and which in early times were applied to the purposes of chronology, are contained in an astronomical work entitled the *Graha Munjari.* This work is extremely valuable, as it enables us to fix, with precision, the real periods of *Hindu* history, with their respective durations; and to shew from thence the alterations that have since taken place by the introduction of new systems.

The first system mentioned in this work consisted of 2400000 years, which was called the *Calpa.*— This period was divided into *Manwantaras* and *Yugs**, as follow:

A *Satya Yug* consisted of . . .	960 years.
A *Trétá*, ...	720
A *Dwápar*, ...	480
A *Cali*, ...	240
A *Mahá Yug*, ...	2400
71 *Mahá Yugs*, ...	170400
with a *Satya* of, ...	960
A *Manwantara*, ...	171360
14 *Manwantaras*, ...	2399040
which, with a *Satya* at beginning,	960
Form the whole *Calpa*, ...	2400000

* The *Calpa* is also divided into 1000 *Mahá* Yugs, of 2400 years each.

The years expired of the above system, at the era of VICRAMA'DITYA, were 1190627; which being reduced into *Manwantaras* and *Yugs*, we shall have

A *Satya* at the beginning, ... =	960
6 *Manwantaras* complete, ...	1028160
67 *Mahá Yugs* of the 7th *Manwantara*,	160800
Thence to the era of VICRAMA'DITYA,	707
Total years expired, ...	1190627

Hence it appears that the *Cali Yug*, of the 67th *Mahá Yug*, of the 7th *Manwantara* of this system, ended 707 years before the era of VICRAMA'DITYA, or 764 years before CHRIST—Therefore

The *Satya Yug*, or golden age, began B. C.	3164
The *Trétá Yug*, or silver age, ...	2204
The *Dwápar Yug*, or brazen age, . .	1484
The *Cali Yug*, or iron age, ...	1004
And ended, ...	764

Making in all 2400 years.

During the first period of 960 years, called the golden age, the *Hindus* have no real history; the whole being fabulous, except what relates to the flood, which is allegorically represented by the fish incarnation.

With the second period, or silver age, the *Hindu* empire commences, under the *Solar* and *Lunar* dynasties; and from BUDHA, the son of SÓMA, the first of the *Lunar* line, they reckon about fifty reigns down to the end of the *Dwápar*,

which make, at an average, twenty-four years to a reign *.

Towards the close of the fourth period, this system appears to have been laid aside, as the repeating the same names over again, would, in time, cause a confusion in history.

The next system mentioned in the *Graha Munjari*, consisted of 387600000 years, which was called the term of BRAHMA'S life. This period is divided and subdivided in the following manner:

A *Calpa* is called a day of BRAHMA', which in this system contains, ...		5000 years
And his night is of the same length, .		5000
A day and night therefore, . .	=	10000
30 of such days and nights make a month, ...	=	300000
And 12 such months a year, .	=	3600000
And 107 such years and eight months make the full period of BRAHMA'S life, ...	=	387600000

The *Calpa*, or day of BRAHMA', is divided into *Manwantaras* and *Yugs*, in the following manner:

---

* The *Trétá* and *Dwápar* together make 1200 years, which, divided by 50, give 24 years to a reign. It is somewhat remarkable, that the principal *Eastern* nations date the commencement of their empires from nearly the same time. Thus we find the *Chinese* empire began under the dynasty of HIA, according to PLAYFAIR, ... B. C. 2207
The kingdom of *Egypt*, ... —— 2207
The kingdom of *Assyria*, ... —— 2221
The empire of *India* under the solar and lunar lines, —— 2204

	Years.	Months.
A *Satya* contains, ...	2	0
A *Trétá*, ...	1	6
A *Dwápar*, ...	1	0
A *Cali*, ...	0	6
A *Mahá Yug*, ...	5	0*

71 *Mahá Yugs*, ...	355 years
With a *Satya* of, ...	2
Make a *Manwantara* of, ...	357
14 such *Manwantaras*, ...	4998
Which with a *Satya* at the beginning,	2
Make a *Calpa*, or day of BRAHMA', . .	5000 years

The years expired of this system, at the beginning of the *Satya*, or golden age of the former system, were, ... 212560000
Add thence to the *Christian* era, . . . 3164
Total years expired at the *Christian* era, 212563164

After 193799286 years had been expired of BRAHMA'S life, he, for the first time, created the Earth, and ordained that, at the end of every *Calpa*, or 5000 years, it should be destroyed, and again reproduced.
Therefore, from the years elapsed, . 212563164
Take the years at the first creation, = 193799286
Remain, ... 18763878
The years from the first creation to the *Christian* era—which being divided by 5000, the quotient will be the number of times the world has been destroyed and created, and the remainder will shew the years expired since the last creation.

* This *Yug* of five years is to be met with in many books.

Thus $\frac{18763878}{5000} = 3752$ times destroyed and created, and 3878 years from the last creation to the *Christian* era.—Now since there are 357 years in each *Manwantara*, we have the date of the commencement of each as follow:

The first *Manwantara*, . .	B. C.	3878	years.
The second, ...	——	3521	——
The third, ...	——	3164	——
The fourth, ...	——	2807	——
The fifth, ...	——	2450	——
The sixth, ...	——	2093	——
The seventh, ...	——	1736	——
The eighth, ...	——	1379	——
The ninth, ...	——	1022	——
The tenth, ...	——	665	——
The eleventh, ...	——	308	——
The twelfth, ...	A. C.	49	——
The thirteenth, ...	——	406	——
The fourteenth, ...	——	763	——
and ended, ...	——	1120	——

Making in all about 5000 years, with the *Sandhi* of two years.

Having thus exhibited the periods of ancient history, according to both systems, the annexed table will now shew, at one view, the commencement of each period, by which the corresponding times in each system may be more easily seen and understood.

By this table it will appear, that the *Satya*, or golden age, as we may call it, of the first system, began on the same year that the third *Manwantara* of the second system did; that is, the year before Christ 3164. And that the ninth *Manwantara*, of the second system, began the year B. C. 1022, only eighteen years after the commencement of the *Cali*, or iron age, of the first system.

Hence, from the beginning of the third *Manwantara*, down to that of the ninth, includes nearly the same time as the *Satya*, *Trétá*, and *Dwápar* of the first system; and consequently, that the events of history recorded in these periods, if transferred to the former, should be found under those particular *Manwantaras* which corresponded with the actual times in which they happened, unless purposely destroyed or perverted, in modern times, to prevent a discovery of the change that has been made in the systems.

Therefore, without entering minutely into the *Hindu* history, let us see how far the periods of the two ancient systems agree, with respect to the same events, which will be the most certain mode of proving the truth of these systems.

The *Hindus* place the flood in the *Satya*, or golden age:—on referring to the *Manwantaras* we find, according to the *Márcan'déya purána*, that the flood took place in the fourth *Manwantara;* and that the fourth MENU derived his name, TA'MASA, from the universal darkness which then overspread the earth—therefore the two systems agree in this point.

The next period is the *Trétá*, or silver age, at or about the commencement of which the *Hindu* empire began under the *Solar* and *Lunar* dynasties. BUDHA, the son of SÓMA, the son of ATRI, was the first of the *Lunar* line, and from him down to the end of the *Dwápar*, or brazen age, (being 1200 years) there were about fifty reigns. Now by referring to the table, we see that the beginning of the *Trétá* of the first system, corresponds to the latter part of the fifth *Manwantara* of the second; we therefore naturally look into the *Puránas* under that period, and there find, among

other names of persons who then lived, those of ATRI, SÓMA, and BUDHA, which shews the exact agreement between the two systems.

We next come to the sixth *Manwantara**, which by the table, began 111 years later than the *Trétá*, or silver age. Among the names we find mentioned in the *Puránas* in this period, are BHRĬGU and DACSHA, who appear to have been cotemporary, or nearly so.—For YAYATI, the fourth prince in descent from BUDHA in the *Lunar* dynasty, according to the *Puránas*, was married to DE'VAYA'NI', the grand-daughter of BHRĬGU, of whom he begat two sons, YADU and TURVASU; and of SARMISHT'A', the daughter of VRĬSHAPARVAN, the grandson of DACSHA, he begat three sons more, viz. DRUHYA, ANU', and PURU; consequently, BHRĬGU and DACSHA must have lived about the same period, and that BUDHA could have been earlier only by a few years, perhaps one or two generations at most. These circumstances, though they may appear to some at first sight as trivial, involve facts of considerable importance in the *Hindu* history, while, at the same time, they prove the truth of the ancient systems.

DACSHA appears to have been an astronomer, and to have formed the twenty-seven lunar mansions, and other constellations, of which he is allegorically called the Father, as in the following verse of the *Cálicá Purána*.

त्रेतायाः प्रथमेभागे जाता दक्षस्य कण्यकाः ।
स ददौ कण्यकाः सप्तविंशतिंच सुधांशवे ॥

* Before CHRIST 2093.

That is—"In the early part of the *Trétá Yug*, "the daughters of DACSHA were born; of these "daughters he gave twenty-seven to the Moon."

DACSHA, in some respects, bears a strong resemblance to ATLAS, who, according to heathen mythology, was the father of the *Pleiades* and *Hyades*, the *Criticá* and *Rohiní* of DACSHA. ATLAS is supposed by some to have been the son of ASIA, the daughter of OCEANUS:—The *Purános* make DACSHA the grandson of the daughter of OCEANUS.

We next proceed to the 7th *Manwantara*. Among the names given in the *Purános* in this period, we find those of JAMADAGNI, BIS'WA'MITRA, and BHARADWA'JA, men who, according to the *Hindu* history, lived towards the close of the *Trétá Yug*; for JAMADOGNI was the father of PARAS'URA'MA, and nephew of BIS'WA'MITRA. Hence the two systems agree in this point.

The next period we come to is the *Dwápar Yug*, or brazen age of the first system. This period is rendered famous in the *Hindu* history, by the war that took place towards the close of it, between the sons of DHRÍTARASHT'RA and those of PA'NDU.

Among the names of men we find mentioned in *Hindu* history, as living in this period, are those of PARA'SARA; VYA'S his son, GARGA, GA'LAVA, ASWATTHA'MAN, CAUSICA, DI'PTIMA'N, CRÍPA, RÍSHYAS'RINGA, &c.

By reference to the table, this period corresponds to the eighth *Manwantara* of the second system, under which we accordingly look in the *Purános*, and find, as might naturally be expected, among

others, the following names, viz. VYA'S, GA'LAVA, ASWATTHA'MAN, CAUSICA, DI'PTIMA'N, CRĬPA, and RĬSHYAS'RINGA*.

Having thus fully and clearly proved the truth of the ancient systems, it is unnecessary to proceed farther in the way of comparisons; nor indeed could we, as the fourth period ended shortly after.

We shall, therefore, now proceed to some of the observations that have been left us by PARA'SARA, GARGA, and others of the ancients, which will enable us to judge with more certainty of the actual time in which they lived, as well as of the progress then made in the science of astronomy in *India*.

It appears, from what is stated in the *Párásarí San'hitá*, relative to the commencement of the six *Hindu* seasons, that the solstitial colure had passed through the first point of *Dhanisht'há*, and the middle of *Aslèshá*, while the equinoctial colure cut the tenth degree of *Bharaní*, and 3° 20′ of *Visác'há*.

The same positions of the colures are also given in a little treatise on ancient astronomy, annexed to one of the *Védás*, in the possesion of Mr. COLEBROOKE, which he obligingly lent me, the sixth verse of which runs thus:

---

* In each *Manwantara*, down to the fourteenth, only a few names are given us in the present *Puránas*, which seem to have been extracted from some larger works, that are not now to be found.

प्रपद्येते श्रविष्ठादौ सूर्या चान्द्र मसावुदक् ।
सार्पार्द्धे दक्षिणार्कस्तु माघ श्रावणयोः सदा ॥

That is—"In the beginning of *S'ravisht'ha*, the "Sun and Moon ascend towards the North, and "in the middle of *Sárpa*, or the mansion of the "serpent, the Sun goes towards the South; the "former, always in *Mágh*, the latter in *S'rávana*."

About the year A. D. 527, the solstitial colure, according to BRAHMA' GUPTA, cut *U. A'shárá* in 3° 20′, and *Punarvasu* in the tenth degree, which made a difference in the positions of the colures, of 23° 20′, from the time of PARA'SARA. For, the longitude of the first point of *S'ravisht'há* in the *Hindu* Sphere is, ... = 9 *s.* 23° 20′
And 3°—20′ of *U. A'shárá*, . . = 9 00 00
Difference or precession to A.D. 527 = 23 20
Which at 50 seconds per annum gives 1680 years.
Add from A. D. 527, to this time, = 1277
Total years since the time of PARA'SARA 2957
Which make about one hundred and fifty years, before the beginning of the *Cali Yug* of the first system of the *Graha Munjari*; or about one hundred and thirty-one years, before the end of the eighth *Manwantara* of the second system.

It appears also from the little work above-mentioned, and its commentary wherein GARGA is repeatedly quoted, that the Sun and Moon were supposed to return to a line of conjunction in the first point of *S'ravisht'há*, at the instant of the winter solstice at the end of every cycle or *Yug* of five years. In this period the moon was supposed to make sixty-two revolutions to the sun, and sixty-seven to the same fixed star, or the equinox; for,

it seems, they had no knowledge of the precession of the equinoxes at that time.

The number of mean solar days assigned to this cycle of five years was 1830, and the number of lunar days in the same time 1860. Hence

1st, The solar days in a year, .	$= \frac{1830}{5}$					$= 366$ days
2d, The lunar days in a year, .	$= \frac{1860}{5}$					$= 372$ *
		r.	s.	°	′	″
3d, The moon's mean annual motion	$= \frac{67}{5} =$	13 —	4	24 —	0	0
4th, The moon's daily motion . .	$= \frac{67}{1830} =$			13	10	$49\frac{11}{61}$
		days.	h.	m.	sec.	
5th, The moon's periodical revol.	$= \frac{1830}{67} =$	27 —	7 —	31 —	20 $\frac{40}{67}$	
6th, The moon's synodical revol.	$= \frac{1830}{62} =$	29	12	23	13 $\frac{17}{31}$	

It appears also, that the greatest length of the day was thirty-two *Dandas*, or twelve hours, forty-eight minutes; consequently, the latitude of the place of observation must have been about $13\frac{1}{2}°$ North. There is no mention made in this work, nor in that of PARA'SARA, of the names of

---

* CADMUS, about fifteen centuries before CHRIST, introduced the *Octæteris*, or cycle of eight years, into *Greece*. In this cycle there were ninety-nine lunations, of thirty lunar days each. Therefore,

The lunar days in the cycle were, ... 2970
The lunar days in a year, ... $= \frac{2970}{8} = 371\frac{1}{4}$
The ancient *Hindus* made it as above, ... 372

The difference is $\frac{3}{4}$ of a lunar day, which being taken from 366 the solar days, leave $365\frac{1}{4}$ days for the year of CADMUS,—this in eight years makes 2922 solar days—Hence, $\frac{2922}{99} = 29$ ds. 12 hrs. 21 m. $49\frac{1}{11}$ sec. the lunation of CADMUS, which is 1 m. 24 sec. short of the ancient *Hindu* lunation.

the days of the week, or of the twelve signs; which seem to have been introduced into the *Hindu* astronomy at a much later period.

From the above short sketch, the reader will be able to judge of the progress made in astronomy in *India* near 3000 years ago. He will perceive that the *Hindus* at that time, possessed nothing that could be called astronomy, no more than other nations.

	days.	hrs.	m.	sec.
The *Hindus* made the lunation then . . . . =	29 --	12 --	23	$13\frac{17}{31}$
The *Europeans* make it now	29 --	12 --	44	3
Difference about			20	$49\frac{1}{2}$

Which in less than 165 years would produce an error of one lunation *.

After this period, we meet with nothing on astronomy till we come down to BRAHMA' GUPTA, being a space of about 1680 years, which seems to be an entire blank in the *Hindu* astronomy. This astronomer flourished about A. D. 527, and finding that the ancient systems were very imperfect, on account of the shortness of the periods, he framed an entire new system, on a much larger scale, making the *Calpa* to consist of 4320000000 years. To this cycle or period of years, he assigned the following revolutions of the planets, &c.

Planets.		Apsides.	Nodes. retro.
SUN,	4320000000	480	
MOON,	57753300000	488105858	232311168
MERCURY,	17936998984	332	511
VENUS,	7022389492	653	893
MARS,	2296828522	292	267
JUPITER,	364226455	855	63
SATURN,	146567298	41	584

* This makes an error of one day in less than six years, which shews that the *Hindus*, at that period, could not determine the times of conjunctions and oppositions of the Sun and Moon for six years together correct, much less eclipses; the calculation of which they must have been then, and for many ages after, totally unacquainted with.

The revolution of the equinoxes, in 4320000000 years	=	199669
Mean solar days, ...		1577916450000
Lunar days or tithis, ...		1602999000000

He made *Sunday** the first day of the *Calpa*, on which day, at sun rise, the planets, &c. are assumed to have been on a line of mean conjunction in the first point of *Aries* in the *Hindu* sphere. The years expired of this system on the 1st of *Vaisac'ha* (or *Vysakh*) this year = 1972948905. Hence, the mean places of the planets, &c. may be computed, from the above data, for any instant required.

This is the third and last system, to which the *Hindus* have transferred their history, and for which purpose, in imitation of the ancients, they divide it into *Manwantaras* and *Yugs*, as follow:

A *Satya Yug* of, ...	1728000 years.
A *Trétá* of, ...	1296000 ——
A *Dwápar* of, ...	864000 ——
A *Cali* of, ...	432000 ——
A *Mahá Yug*, ...	4320000 ——
71 *Mahá Yugs*, ...	306720000 ——
with a *Satya* of, ...	1728000 ——
A *Manwantara*, ...	308448000 ——
14 *Manwantaras*, ...	4318272000 ——
with a *Satya* at beginning of,	1728000 ——
The modern *Calpa*, ...	4320000000 ——

* This is the first system, so far as we yet know, in which the names of the days of the week and the twelve signs were introduced. These were probably received from the West, and the first point of *Aries* was fixed to that point in the *Hindu* sphere, which corresponded with the instant of the vernal equinox, which, in the time of BRAHMA' GUPTA, was the beginning of *Aswini*. This position has, therefore, a direct reference to the actual time

In order to show how the *Hindu* history, according to the two former systems, had been transferred to this, let 1972948905, the years now expired be reduced into *Manwantaras* and *Yugs*, and we shall have

A *Satya* at the beginning, . .	=	1728000 years.
6 *Manwantaras* complete,	=	1850688000 ——
27 *Mahá Yugs* of the 7th *Manwantara*,	=	116640000 ——
Satya of the 28th *Mahá Yug*,		1728000 ——
Trétá of ditto, ...		1296000 ——
Dwápar of ditto, ...		864000 ——
Expired of the *Cali* of ditto, .		4905 ——
Total years expired, ...		1972948905.

Hence, it is evident that, we are now in the 4906th year of the *Cali Yug*, of the twenty-eighth *Mahá Yug*, of the seventh *Manwantara* of this new system.

Now, if we transfer the names, &c. in the four ages of the first system of the *Graha Munjari*, to the *Satya*, *Trétá*, *Dwápar* and *Cali* above-mentioned, and those in the *Manwantaras* of the second system, to the *Manwantara* of the same name in this; then we shall have the periods of *Hindu* history, according to modern notions, founded on the system of BRAHMA´ GUPTA.

In the first place, by transferring the names, &c. in the *Dwápar Yug* of the first system, to the period of the same name in the new system, PARA´SARA, VYA´S, and others, who lived near three thousand years ago, are thrown back into antiquity about 5000 years; and the same persons who lived in the eighth *Manwantara*, of the second system, by the transfer, will appear as yet to come; for we are now only in the seventh of the new. Secondly,

the twelve signs were first introduced, that is to say, near 1300 years ago; though hitherto but little, if at all, attended to by writers on the *Hindu* astronomy, &c.

Budha, the son of Sóma', the first of the *Lunar* line, who began his reign about the beginning of the *Trétá* of the first system, or 2204 years, B. C. will, by the transfer, be placed at the distance of 2163102 years, before the *Christian* era;—Thirdly, in the *Trétá* and *Dwápar* of the first system, there were (taken together) 1200 years, during which about fifty princes in the Lunar line had reigned in succession, but the *Trétá* and *Dwápar* of the new system contain 2160000 years, which divided among fifty, give 43200 years to a reign;—Fourthly, Budha, the son of Sóma, lived towards the close of the fifth *Manwantara* of the second system, which being transferred to the new, his name will appear at two distinct periods of time, immensely distant from each other, viz. in the fifth *Manwantara*, and again in the *Trétá Yug*, of the twenty-eighth *Mahá Yug*, of the seventh *Manwàntara*, being an interval, at the least, of 426816000 years;—Fifthly, the mothers of the children of Yaya'ti *(see page 230)* who lived in the sixth *Manwantara* of the second system, by being transferred to the sixth *Manwantara* in the new, are thrown back several millions of years before their children, and Dacsha and Bhrïgu, by the same transfer, are thrown back, from their cotemporaries, many millions of years. Lastly, Swayambhuva, the Adam of the *Hindus*, who, according to the second system, lived 3878 years before Christ, is placed, by the transfer, 1972947101 years before that epoch.—These are a few of the inconsistencies introduced by the adoption of the new system of Brahma' Gupta, the rest may be easily conceived.

To reconcile these different absurdities, it was necessary to new model the whole of the *Puránas*, and to introduce such fictions and prophecies, as seemed best calculated to answer the end in view; but which after all, only serve to shew, in a more glaring manner, the folly of the attempt.

The enormous length of the periods in the new system, required that the life of man should be proportionably extended, which was accordingly assumed: In order to account for the same *Rishis* being mentioned in different periods, immensely distant from each other, they are asserted not only to have existed at all times, but to be still living. But as all men were not *Rishis*, and as there were twenty-seven *Mahá Yugs* from the beginning of the seventh *Manwantara* to the commencement of the twenty-eighth *Mahá Yug* = 116640000 years, during which there is no shadow of history; to account for this, they therefore pretend, that at the end of every *Mahá Yug*, or 4320000 years, the same names, persons, &c. again occur, as in the preceding period; so that by having the names, &c. for one *Mahá Yug*, or set of four ages, we have them for all the rest.

Vyá's, and others, as I have already noticed, lived in the eighth *Manwantara* of the second system of the *Graha Munjari*, but by the transfer of the names in that *Manwantara*, and in the ninth, tenth, &c. to the periods of the same names in the new system, they would appear as yet to come; therefore, to reconcile this, all that was necessary was to convert it into a prophecy, which was accordingly adopted in the modern *Puránas*; so that those men who in reality are long since past and gone, appear, in these books, as if yet to come; and as many millions of ages must elapse, by the new system, before the periods of their prophesied existence can arrive, there is no great danger of detecting the falsehood of such prophecy.

It may however be easily conceived, that such a change in the history, by the introduction of a new system, though highly flattering to the vanity of the *Hindus* in general, in exalting them, at

least nominally, in point of antiquity above all other nations, would naturally be opposed by many, as long as any knowledge remained of the ancient systems, therefore, the suppression of these would become necessary. Accordingly we find, by a tradition still current among the learned *Hindus*, that the *Mahárástras, (Mharatas)* destroyed all the works of the ancient astronomers they could meet with; which, in some measure, may account for the deficiency we have observed in astronomical works, anterior to the time of BRAHMA′ GUPTA. But if the *Mharatas* did actually destroy the works of the ancient astronomers, it may be justly inferred that other works of antiquity, the subjects of which might contradict the new order of things, have also met the same fate.

From the foregoing view of the artificial systems which have prevailed at different times, and of the various changes that have been made in the *Hindu* history, &c. the reader will now be able to judge for himself, and form a just opinion of the antiquity of the books of the *Hindus*, their arts and their sciences.

In the first place, it must be evident, that as the artificial system of BRAMA′ GUPTA, now called the *Calpa* of BRAHMA′, and to which the modern *Hindus* have artfully transferred their history, is not yet 1300 years old, no book whatever, let its name or title be what it will, in which the monstrous periods of that system, or any allusion to them, is found, can possibly be older than the time of its invention *. And secondly, that

---

* The author of this system, as well as the time in which he lived, is well known to the learned, and subject to no doubt. Those who wish to see the age of the system determined from computation, may consult Vol. VI, *Asiatic* Researches, page 579-581.

none of the modern Romances, commonly called the *Puránas,* at least in the form they now stand, are older than 684 years; the time when the fourteenth *Manwantara* of the second system of the *Graha Munjari* ended; but that some of them are the compilations of still later times.

We may, perhaps, be told by some person who has suffered his imagination to get the better of his judgment, that the *Hindus* firmly believe in the prophecies in the *Purúnas,* and that we have no right to doubt their authenticity, or what universal opinion sanctions as true.

With respect to the firm belief or universal opinion of the *Hindus,* we know too well the fallacy of it, and that it is not in the smallest degree to be relied on. We know that it is the universal opinion of the *Hindus,* that PARA'SARA, VYA'S, GARGA, and others, lived near 5000 years ago. But we know, to a certainty, from the positions of the colures in the time of PARA'SARA, &c. that such opinion is totally false, and that it arose from the transfer of the names of men living in the *Dwápar Yug* of the first system of the *Graha Munjari,* to the period of the same name in the modern system of BRAHMA' GUPTA; and that a similar transfer of the names in the eighth, ninth, tenth, &c. *Manwantaras* of the second system, to the periods of the same name in the new, gave rise to the pretended prophetic effusion in the modern *Puránas,*&c. —Moreover, we know, that it is the general opinion of the *Hindus,* that VARA'HA MIHIRA not only lived about the year A. D. 499, but also at the era of VICRAMA'DITYA, or fifty-six years before CHRIST; which opinion we know to be inconsistent with truth, and contrary to the course of nature. VARA'HA MIHIRA, in his rule for calculating the precession of the equinoxes, given in his work, entitled the *Játacárnava,* says,—

शाकमेकाब्धिवेदोनं द्विःकृत्वा दशभिर्हरेत्।
लब्धं हीनंच तच्चैव अयनांशकलाः स्मृताः॥

That is, "From the year of *Saca* take 421:—"having put the remainder down in two places, "let one of them be divided by ten, and the quotient taken from the other, the residue is the "precession in minutes."

Hence many of the *Hindus* have, erroneously, concluded that VARA'HA MIHIRA must have lived in the year 421 of *Saca*, or A. D. 499. But surely there is not the smallest foundation to draw any such inference from the passage, for, he might have lived at the present time and given the same rule. In fact, it might, with equal propriety, be pretended that he lived at the beginning of the *Cali Yug*, because he assumed the planets to have been in a line of mean conjunction in the first point of *Aries* at that time. Not satisfied, however, with thus stretching a point in favour of the antiquity of their author, they go something farther, and endeavour from the following verse of the *Navaratna*, which they generally quote, to refer him to the era of VICRAMA'DITYA, fifty-six years before CHRIST, or upwards of 500 years still earlier than the former.

धन्वन्तरि क्षपणकामरसिंह शंकु
वेतालभट्ट घटकर्पर कालिदासाः।
ख्यातो वराहमिहिरो नृपते सभायां
रत्नानि वै वररुचि र्नव विक्रमस्य॥

That is, "DHANVANTARI, CSHAPANACA, AMARAS'IN'HA, S'AN'CU, BE'TA'LABHATTA, GHATACAR-

PU'RA, CA'LIDA'S, the celebrated VARA'HA MIHIRA and BARARUCHI, were the nine gems in the council of *Raja* VICRAMA."

Upon shewing the above verse to an intelligent pandit, he smiled and said, with a degree of candour I did not expect, that the inference, with respect to time, usually drawn from it, was not just; for that there had been several princes of the name of VICRAMA, or VICRAMA'DITYA. That, exclusive of the one from whom the epoch is reckoned, there was another in the time of SALVAHAN; a third who had succeeded *Raja* BHOJA; and a fourth lineally descended from the latter, now living at a place, called *Bhójpoor*, beyond *Patna*:—that, beside these, there were many others, who had sprung up at different periods in the same family, but that the particular prince in whose time VARA'HA MIHIRA, and the others above named, flourished, was the immediate successor of *Raja* BHOJA. For, that they were first in the council of Rajah BHOJA, and afterwards in that of VICRAMA'DITYA his successor. This simple explanation of the pandit, was a complete solution of the mystery on which the pretended antiquity of the works of VARA'HA, AMARAS'INHA, CA'LIDAS, BARARUCHI, &c. were founded, and which led many into an error that they were written before the *Christian* era, though in reality little more than seven hundred years old.

Raja BHOJA, according to the *Ayeen Akbery*, began his reign about the year 1153 of SALVAHAN.—This, however, must be incorrect, for it seems, that according to *Hindu* accounts, and others, he began his reign about 210 years before the death of *Raja* PITHAURA, who fell in battle with the *Mahomedans*, A. H. 588, or A. D. 1192. And as *Raja* BHOJA is said to have reigned 100 years, he must consequently have ascended the throne A. D. 982, and died A. D. 1082: which agrees exactly with the time in

which we know VARA'HA MIHIRA must have flourished, according to the positions of the planets, &c. given by him in his works, as well as from the date of the *Bhásvati*, composed in A. D. 1099, by one of his pupils. *Raja* BHOJA, according to the *Agni Puráṇa*, was succeeded by *Raja* VICRAMA.

BARARUCHI, one of the nine above-mentioned, was the author of a popular Work, entitled *Sin'hásana dwátrin'sati*, relating to *Raja* BHOJA. The names of CA'LIDA'S, BARARUCHI, &c. are to be met with in the *Bhoja Champu*, as also in the *Bhoja Prabandha*, from which last-mentioned work the following passage is taken:—

तंवीक्ष्य ते द्विजा ऊचुः । कालिदास अस्माकं
समग्र वेदविदां भोजः किमपि नार्पयति ॥

"The *Bráhmens* seeing him (i. e. CA'LIDA's) said —O CA'LIDA'S, BHOJA does not give us, *who are* learned in all the *Védas*, any *thing*."

Several other passages might be quoted from the *Bhoja Prabandha*, to shew that CA'LIDA'S, BARARUCHI, and a great many other learned men whose names are therein mentioned, lived at the court of BHOJA. The *Bhoja Prabandha*, is said to have been written by *Raja* BULLA'LA SE'NA.

We may now plainly perceive, from the whole of the above facts, the little dependence there is to be placed on what is usually called the universal or general opinion of the *Hindus*; which when thoroughly sifted and examined to the bottom, proves at last to be founded, principally, in vanity, ignorance, and credulity.

A great deal more might be said, respecting the history and astronomy of the *Hindus*; but having already extended this paper to a much greater length than I originally intended, I shall now take leave of the subject.

TAB OF THE HINDU HISTORICAL PERIODS,

Shewing their respective Durations and Ti of Commencement, according to two ancient Systems given in an Astronomical Work, entitled The GRAHA MUNJARI.

ACCORDING TO THE FIRST SYSTEM.—*See page 225.*

The Four AGES of the Ancients, known in th West by the names of the GOLDEN, the SILVER, the BRAZEN, and the ON AGES.

	B. C.
I. The SATYA YUG, or GOLDEN AGE —— began	3164

BRAHMA,

A Flood in this d—Year unknown. 4th *Manwantara.*

ATRI,
SOMA,

II. The TRETA' YUG, or SILVER AGE —— began	2204

BUDHA, the son of SOMA, the son of A —See 5th *Manwantara.*
PURURAVA, his son,
AYU,
NAHUSHA,
YAYATI, married DE'VAYA'NI, the g nd daughter of BHRIGU,
—S'ARMISHTA', the great g nd daughter of DACSHA,
was her companion.—See 6t *Manwantara.*

BHARADWA'JA, VIS'WA'MITRA, JAMADAGNI, &c. } See the 7th Ma ntara.

III. The DWA'PAR YUG, or BRAZEN AGE —— began	1484

GA'LAVA, CAUSICA, DIPTIMAN, CRIPA, RISHYAS'RINGA, VYA'S, &c. } See the 8th anwantara.

IV. The CALI YUG, or IRON AGE —— began	1004
—— d ended before CHRIST.	764

REMARKS.

The periods of *Hindu* history, exhibited in the a Table, are strictly laid down according to the data in the *Graha Munjari.* e four ages belonging to *the first system appear to have* been adopted in v early times, and to have continued in use among several nations down to the urth period. All beyond the second period or silver age, appear to be wholl bulous.

At or about the commencement of the second pe , we find several Empires and Kingdoms began, such as:

The *Hindu* Empire under the solar and lunar l of Princes, B. C. 2204.
The *Chinese* Empire under the dynasty of HIA LAYFAIR, p. 253, 2207.
The Kingdom of *Egypt* about the same time, ... 2207.
The Kingdom of *Assyria,* . . . . 2221.

Towards the close of the 4th period, the *Hindus* to have adopted the second system, and transferred their history to the co ponding periods: hence, we meet with the names of BUDHA, &c. in the 5t *anwantara;* of BHRIGU, &c. in the 6th; of JAMADAGNI, &c. in the 7th; and se of VYA'S, CRIPA, &c. in the 8th: because these periods correspond with t ormer in respect to time, though under different names, as may be easily seen n the Table. These *decisive facts* must carry conviction to the mind of ev unbiassed person, of the truth of the above ancient systems; and of the imposi of the system of BRAHMA GUPTA, substituted in their place in modern times. ut however strange and inconsistent, the *Hindu* history now appears to be, consequence of transferring the above names to the monstrous periods of the tem of BRAHMA GUPTA, yet, from the force of prejudice, and a partiality f hatever appears strange or marvellous in preference to simple truth, we see it s advocates even among those whom we would naturally expect to have kno better.

B. C. (scale)

4000 — 3900 — 3800 — 3700 — 3600 — 3500 — 3400 — 3300 — 3200 — 3100 — 3000 — 2900 — 2800 — 2700 — 2600 — 2500 — 2400 — 2300 — 2200 — 2100 — 2000 — 1900 — 1800 — 1700 — 1600 — 1500 — 1400 — 1300 — 1200 — 1100 — 1000 — 900 — 800 — 700 — 600 — 500 — 400 — 300 — 200 — 100 — 0 — A. C. — 100 — 200 — 300 — 400 — 500 — 600 — 700 — 800 — 900 — 1000 — 1100 — 1200 — 1300

ACCORDING TO THE SECOND SYSTEM—*See page 228.*

	B. C.
I. The 1st *Manwantara* —— began	3878

S'WAYAMBHUVA and SATARU'PA' his wife, the ADAM and EVE of the *Hindus*—their issue were two sons—PRIYAVRATA and UTTA'NPA'TA, and three daughters—A'CU'TI, DE'VAHU'TI and PRASUTI.

II. The 2d *Manwantara*	3521

DYUMAT, SUSE'NA, ROCHISHMAT, U'RJASTAMBHA, HAVIDHRA, SUCRÍTI,
A'PA, MURTI, NABHASA, NA'BHASYA, JYOTISHA, &c.

III. The 3d *Manwantara*	3164

TANO'RJA, ISHATU'RJA, MADHU, MA'DHAVA, S'UCHI,
S'UCRA, SAHA, &c.
UTTAMA, the MENU of this period was the son of PRIYAVRATA, the son of SWAYAMBHUVA, according to most of the *Purânas.*

IV. The 4th *Manwantara*	2807

KABYA, PRITHU, AGNI, JAHNU, DHA'TRÍ, &c.

A Flood in this period—the year unknown. See the *Márcan'déya Purâna.*

V. The 5th *Manwantara*	2450

VE'DAVA'HU, VE'DAS'IRA, HIRAN'YAROMA, PARJANYA,
SATYANE'TRA, A'TREYA, &c.
BUDH, the son of SOMA, the son of ATRI.—See the *Tretá Yug.*

VI. The 6th *Manwantara*	2093

DACSHA, DANU, VRISHAPARVAN, S'ARMISHTA'—
BHRIGU, S'UCRA, DE'VAYA'NI — she was marri to YAYA'TI—See the *Trétá Yug.*

VII. The 7th *Manwantara*	1736

BHARADWA'JA, VIS'WA'MITRA, JAMADAGNI, &c. } See the *Trétá Yug.*

VIII. The 8th *Manwantara*	1379

GA'LAVA, CAUS'ICA, DI'PTIMA'N, CRIPA, RISHYAS'RINGA, VYA'S, &c. } See the *Dwápar Yug.*

IX. The 9th *Manwantara*	1022

BHU'TAGE'TU, DI'PTICE'TU, DYUTIMA'N, ME'DHA'TITHI, &c.

X. The 10th *Manwantara*	665

BHURISE'NA, SUCSHE'TRA, HAVISHMA'N, SUCRÍTI, SATYA, TAPOMURTI, &c.

XI. The 11th *Manwantara*	308

SUBALA, SUDHARMA, DE'VA'NICA, &c.

	A. C.
XII. The 12th *Manwantara*	49

DE'VABA'N, UPADE'VA, DE'VAS'RESHT'HA, TAPASWI', SUTAPA, TAPO'VATI, &c.

XIII. The 13th *Manwantara*	406

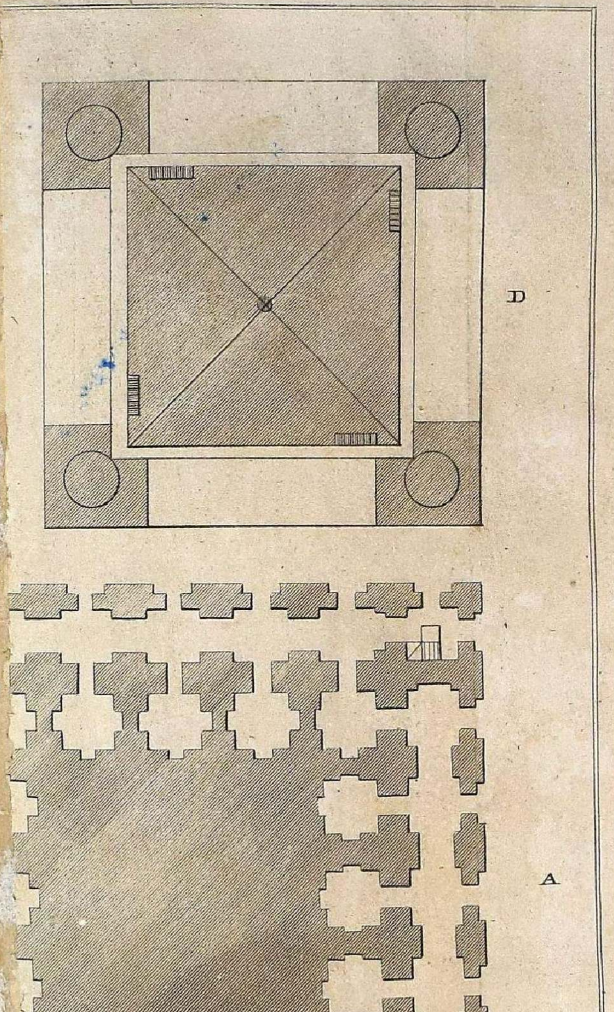
VICHITRASE'NA, VICHITRA, NIRMO'HA, DHRITIMAN, &c.

XIV. The 14th *Manwantara*	763

U'RU, GAMBHI'RA, BRADHNA, AGNIVA'HU, S'UCHI, S'UCRA, ABHIJIT, S'IVA SWA'SA, &c.

—— and ended after CHRIST.	1120

Note, the names abo exhibited are taken from the *Purânas* under the respective periods, to shew more clearly, the agreement between the ancient systems in respect to historical facts, &c.


D
A

VII.

An Essay *on the* Sacred Isles *in the* West, *with other Essays connected with that Work.*

BY CAPTAIN F. WILFORD.

INTRODUCTION.

At the moment of appearing before the tribunal of the *Asiatic* Society, and of the public, it would be in vain to attempt to conceal my emotion and anxiety. On the merit of the composition alone, I am conscious their judgment must rest; and this conviction agitates me with doubt and apprehension.

I have omitted no endeavour to render this work as free from imperfections as my abilities would allow; but the subject is so novel, and the source of information so remote from the learned in *Europe*, that I must confess I feel no small degree of uneasiness on that account. Fortunately for me, the Society, to which I have the honour of presenting my work, will stand between me and the public, for it is in the power of every member, whether conversant with the *Sanscrit* language or not, to ascertain the genuineness of all the authorities cited by me; the books, from which I have drawn my information, being by no means rare nor difficult to be procured.

The grand outlines and principal features of this essay are also well known to pandits and learned men in *India*. A few passages, anecdotes, and circumstances may be, perhaps, unknown to many of them: but these are perfectly immaterial; and, whether allowed to remain or not, neither my foundation nor superstructure can be affected.

The Sacred Isles in the West, of which *Sweta-dwípa*, or the White Island, is the principal, and the most famous, are, in fact, the holy land of the *Hindus*. There the fundamental and mysterious transactions of the history of their religion, in its rise and progress, took place. The White Island, this holy land in the West, is so intimately connected with their religion and mythology, that they cannot be separated: and, of course, divines in *India* are necessarily acquainted with it, as distant *Muselmans* with *Arabia*.

This I conceive to be a most favourable circumstance; as, in the present case, the learned have little more to do than to ascertain whether the White Island be *England*, and the Sacred Isles of the *Hindus*, the *British* Isles. After having maturely considered the subject, *I think they are*. My reasons for this opinion are given in the present work, and I submit them with all due deference to the learned, declaring publicly, that I have, to the best of my knowledge, fairly stated the case, and that I have not designedly omitted any passage that might induce a different conclusion. At the same time I desire them to believe, that I do not mean to write dogmatically, even when I seem to make a positive assertion, and that I never entertained an idea that my conviction should preclude the full exercise of their judgment.

Should the learned, after a due investigation of the subject and of the proofs I have adduced in support of my opinion, dissent from it, and assign another situation for the White Island, and the Sacred Isles, I have not the least objection to it: for, admitting my position to be right, I am conscious that *Britain* cannot receive any additional lustre from it. Indeed I had originally supposed *Crete* to be meant, and it was not without some

reluctance, that I gave up the first impression, originating from no unspecious reasons, which however yielded to more solid proofs.

The difficulties I have experienced in bringing forward this work, were numerous. Some originated from the nature of the work itself, and of the sources from which I drew my information, whilst others were of a most perplexing and distressing nature in themselves.

My original design was to have published my essay on the Sacred Isles by itself, and this several years ago, when it was ready for the press. But in that detached state, if I may be allowed the expression, unaccompanied with the geography of the country from which I drew my information respecting them, and unconnected with the general system of geography of the *Hindus*, it would have appeared to great disadvantage. Beside, it was far from being so complete as it now is; for I have since found many valuable and interesting materials, which have enabled me to form a more adequate idea of the subject.

A fortunate, but at the same time a most distressful discovery contributed to delay its publication. Though I never entertained the least doubt concerning the genuineness of my vouchers (having cursorily collated them with the originals a little before I had completed my essay), yet when I reflected how cautious an author ought to be, and how easily mistakes will take place, I resolved once more to make a general collation of my vouchers with the originals, before my essay went out of my hands. This I conceived was a duty which I owed, not only to the public, but to my own character.

In going on with the collation, I soon perceived, that whenever the word *S'wetam*, or *S'weta-dwípa*, the name of the principal of the Sacred Isles, and also of the whole cluster, was introduced, the writing was somewhat different, and that the paper was of a different colour, as if stained. Surprised at this strange appearance, I held the page to the light, and perceived immediately that there was an erasure, and that some size had been applied. Even the former word was not so much defaced, but that I could sometimes make it out plainly. I was thunderstruck, but felt some consolation, in knowing that still my manuscript was in my own possession. I recollected my essay on *Egypt*, and instantly referred to the originals which I had quoted in it, my fears were but too soon realized, the same deception, the same erasures appeared to have pervaded them. I shall not trouble the Society with a description of what I felt, and of my distress at this discovery. My first step was to inform my friends of it, either verbally or by letters, that I might secure, at least, the credit of the first disclosure.

When I reflected, that the discovery might have been made by others, either before or after my death, that in one case my situation would have been truly distressful; and that in the other my name would have passed with infamy to posterity, and increased the calendar of imposture, it brought on such paroxysms as threatened the most serious consequences in my then infirm state of health. I formed at first the resolution to give up entirely my researches and pursuits, and to inform Government and the public of my misfortune. But my friends dissuaded me from taking any hasty step; and advised me to ascertain whether the deception had pervaded the whole of the authorities cited by me, or some parts only. I followed their advice,

and having resumed the collation of my vouchers with unexceptionable manuscripts, I found that the impositions were not so extensive as I had apprehended.

The nature of my inquiries and pursuits was originally the source of this misfortune. Had they been confined to some particular object, to be found within the limits of a few books, as astronomy, it could never have taken place; but the case was very different. The geography, history, and mythology of the *Hindus* are blended together, and dispersed through a vast number of voluminous books, in which prevails a most disgusting confusion and verbosity. Besides, the titles of their books have seldom any affinity with the contents; and I have often found most valuable materials in treatises, the professed subject of which was of the most unpromising nature.

Thus when I began to study the *Sanscrit* language, I was obliged to wade, with difficulty, through ponderous volumes, generally without finding any thing valuable enough to reward me for my trouble. But in the course of conversation, my pandit, and other learned natives, often mentioned most interesting legends, bearing an astonishing affinity with those of the western mythologists.

I consequently directed my pandit to make extracts from all the *Purán'as* and other books relative to my inquiries, and to arrange them under proper heads. I gave him a proper establishment of assistants and writers, and I requested him to procure another pandit to assist me in my studies; and I obtained, for his further encouragement, a place for him in the college at *Benares*. At the same time, I amused myself with unfolding to him our ancient mythology, history, and geo-

graphy. This was absolutely necessary, as a clue to guide him through so immense an undertaking, and I had full confidence in him. His manners were blunt and rough, and his arguing with me on several religious points with coolness and steadiness, a thing very uncommon among natives, (who on occasions of this kind, are apt to recede, or seem to coincide in opinion,) raised him in my esteem. I affected to consider him as my *Guru,* or spiritual teacher; and at certain festivals, in return for his discoveries and communications, handsome presents were made to him and his family.

The extracts which I thus received from him, I continued to translate, by way of exercise, till, in a few years, this collection became very voluminous. At our commencement, I enjoined him to be particularly cautious in his extracts and quotations; and informed him, that if I should, at a future period, determine to publish any thing, the strictest scrutiny would take place in the collation. He seemed to acquiesce fully in this; and we went on, without any suspicion on my part, until Sir WILLIAM JONES strongly recommended to me to publish some of my discoveries, particularly respecting *Egypt*. I collected immediately all my vouchers relating to that country, carefully revised my translations, selected the best passages, compared them with all the fragments I could find among our ancient authors, and framed the whole into an essay. I then informed my pandit that, previously to my sending it to Sir W. JONES, a most scrupulous collation of the vouchers, with the original manuscripts from which they were extracted, would take place.

To this, without the least alteration in his countenance, nay, with the greatest cheerfulness, he assented; and as several months intervened, he

had time to prepare himself; so that when the collation took place, I saw no ground to discredit his extracts, and was satisfied.

I have since learned, that, as the money for his establishment passed through his hands, his avaricious disposition led him to embezzle the whole, and to attempt to perform the task alone, which was impracticable. In order to avoid the trouble of consulting books, he conceived the idea of framing legends from what he recollected from the *Purán'as*, and from what he had picked up in conversation with me. As he was exceedingly well read in the *Purán'as*, and other similar books, in consequence of his situation with a *Marhatta* chief of the first rank in his younger days, it was an easy task for him; and he studied to introduce as much truth as he could, to obviate the danger of immediate detection.

Many of the legends were very correct, except in the name of the country, which he generally altered into that of either *Egypt* or *S'wétam*.

His forgeries were of three kinds; in the first there was only a word or two altered; in the second were such legends as had undergone a more material alteration; and in the third all those which he had written from memory.

With regard to those of the first class, when he found that I was resolved to make a collation of the manuscripts, he began to adulterate and disfigure his own manuscript, mine, and the manuscripts of the college, by erasing the original name of the country, and putting that of *Egypt* or of *S'wétam* in its place.

To prevent my detecting those of the second

class, which were not numerous, but of the greatest importance in their nature; and as books in *India* are not bound as in *Europe*, and every leaf is loose, he took out one or two leaves, and substituted others with an adulterous legend. In books of some antiquity it is not uncommon to see a few new leaves inserted in the room of others that were wanting.

To conceal his impositions of the third class, which is the most numerous, he had the patience to write two voluminous sections, supposed to belong one to the *Scanda purán'a*, and the other to the *Brahmán'da*, in which he connected all the legends together, in the usual style of the *Purán'as*. These two sections, the titles of which he borrowed, consist, as he wrote them, of no less than 12,000 *Slocas*, or lines. The real sections are so very scarce, that they are generally supposed to be lost, and probably are so, unless they are to be found in the library of the *Rajah of Jayanágar*. Other impostors have had recourse to the *Scan'da*, *Brahmán'da*, and *Padma-purán'as*, a great part of which is not at present to be found; and for that reason, these are called the *Puránas of thieves* or *impostors*; though the genuineness of such parts as are in common use has never been questioned. —Some persons attempted, by such means, to deceive the famous JAYASINHA, and the late TICATRAYA, prime minister of the *Nabob* of *Oude*. They were discovered, lost their places and appointments, and were disgraced.

My chief pandit certainly had no idea, in the first instance, that he should be driven to such extremities. I used (as already remarked) to translate the extracts which he made for me, by way of exercise; and never thought, at that time, of comparing them with the originals; first, because

I had no reason to doubt their authenticity; and secondly, because it would have been soon enough to make the collation when I had determined upon publishing any part of them.

This apparently lulled him into security; but, being afterwards sensible of the danger of his detection, he was induced to attempt the most daring falsification of the originals, in order, if possible, to extricate himself. When discovered, he flew into the most violent paroxysms of rage, calling down the vengeance of heaven, with the most horrid and tremendous imprecations upon himself and his children, if the extracts were not true. He brought ten *Bráhmens*, not only as compurgators, but also to swear, by what is most sacred in their religion, to the genuineness of these extracts. After giving them a severe reprimand, for this prostitution of their sacerdotal character, I, of course, refused to allow them to proceed.

And here I shall close the recital of what relates personally to a man; whose course of imposition I have deemed incumbent on me to lay before the public. He came to me in distress, but with a fair reputation; he is now in affluence, but with a character infamous for ingratitude, and fraud, and deceit. His voluminous extracts are still of great use to me, because they always contain much truth, and the learned, therefore, have not been misled in their general conclusions from my essay on *Egypt;* though it would be dangerous for any one to use detached passages, and apply them to any particular purpose. In the course of my present work, I have collected carefully what I could find in *India* concerning *Ethiopia* and *Egypt.*

A few instances of the impositions of my pandit will exemplify his mode of proceeding. The first

is a legend of the greatest importance, and said to be extracted from the *Padma*. It contains the history of NOAH and his three sons, and is written in a masterly style. But unfortunately there is not a word of it to be found in that *Purán'a*. It is, however, mentioned, though in less explicit terms, in many *Purán'as*, and the pandit took particular care in pointing out to me several passages which confirmed, more or less, this interesting legend. Of these I took little notice, as his extract appeared more explicit and satisfactory; and I do not now recollect in what *Purán'as*, or other books, they are contained. It is acknowledged, that the three sons of SWAYAMBHUVA are incarnations of the TRIMURTI; and they are declared, in general, in the *Purán'as*, to have been created by the Deity to marry the three daughters of the first man, with a view to avoid the defilement of human conception, gestation, and birth.

DACSHA and BRAHMA' in a human shape; CARDDAMA, or CAPILA, or CABIL, (the name of CAIN among *Muselmans*,) was S'IVA; and the benevolent RUCHI, was VISHNU: one of RUCHI's titles is S'ARMA and S'AMA: S'IVA is called HA and HAM in the objective case; and BRAHMA, or DACSHA, is declared to be PRAJA'PATI, nearly synonymous with JYA'PATI.

In the *Mahá-Bhárata*, section of the *Adipurva*, there is a much more positive passage. D'HARMA, or the first man, sprang from the right side of BRAHMA', which was cut open for that purpose; to him were born three sons, S'AMA, CAMA, and HARSHA.

The rest of the legend, about the intoxication of NOAH, is from what my pandit picked up in conversation with me.

One of the sons of NOAH is called ILA'-PATI, synonymous with JYA'PATI, the lord of the earth, the same with PRAJA'PATI, or the lord of mankind. Indeed the denomination of *Prajápati* is originally no more than *Jápati*, with the *upsarga*, or indeclinable particle *pra*, used intensively. *Jah* is the principle of life in a living being; hence a man is called *Pra-já*, from his superiority above the rest of the animal creation. Besides, it is very common in *India* to prefix the particle *pra* to proper names of holy men, and more particularly so among the *Baudd'hists*. Thus they say, *Pra-S'wana*, the venerable S'WANA. *Pra-áryya-sira*, the venerable sire of the *A'ryyas*, *Pra-Is'wara*, &c. In the same manner, PRAJA'PATI signifies the venerable JA'PATI, the chief of the animated creation. This will not seem in the least surprising, when we reflect that the *Hindus* never admit of any legend, without disfiguring it so as to make it their own. Besides, we see the enmity between BRAHMA' and S'IVA remaining still in their human shapes; for CARDDAMES'WARA killed his brother DACSHA.

It is acknowledged, both by *Hindus* and the western mythologists, that at every renovation of the world the same events take place, the same heroes re-appear upon the scene; and of course S'AMA, CAMA, HARSHA, or PRA-JA'PATI, are born again to every MENU.

ILA, or ILA', called also ID'A', and IR'A', was the son of NOAH; and ILA'-PATI is synonymous with JYA'PATI, and implicitly so with JA'PATI. This ILA is called ILYS in the theogony of ORPHEUS, and GHILSHAH in *Persian* romances, which literally answers to ILA'-PATI. He is, perhaps, the same with the eldest ILUS of HOMER.

The next legend is that of SEMIRAMIS, which the pandit has most shamefully disfigured. She is well known in *India* under the name of S'AMÍDEVÍ; and she is the goddess of the element of fire, so inimical to the vegetable kingdom, the *St'háwaras*, or immoveable beings; and of course to their chief, VISHNU, in the character of the *Aswatt'ha* tree, which is declared to be the first, the chief of trees, and of course *St'háwarpati*, or *Staurobates*.

S'AMÍ, and the *Aswatt'ha* tree, have each two countenances; one is that of a tree of the same name, the other is that of a human being. In this, which is their original character, SA'MÍ is the same with URVASI, who married PURURAVA, the grandson of NOAH, exactly in the same degree of descent with the founder of *Ninive*. The same is called also AILA in the *Purán'as*, and LAILAN-SHAH by *Persian* romancers, NINUS by the *Greeks*, and in the *Tamuli* dialect he is called NILAN. Their amours and their quarrels, and ultimately their reconciliation, are the subject of a beautiful drama. Her charms certainly effected the conquest of LAILAN'S heart; they quarrelled, and she disappeared in a most wonderful manner; but LAILAN, with powerful spells, forced her back. SEMIRAMIS first conquered STAUROBATES, but was conquered by him at last.

S'AMÍ and PURURAVA were changed into two trees, without losing their human countenances, the SAMÍ and the AS'WATT'HA; the ST'HA'WARAPATI and S'AMÍ-DEVÍ remain dallying in the tree of the same name; hence she is really SAMÍ-RAMA, though that denomination be never used.

Her history is to be found in the GAN'ES'A, VISHNU, and *Bhágavat Puránas*, and also in the *Mahá Bhárata*, but it is incomplete in each

of them: and the whole must be brought together and compared with the account given of her in the above *Nataca*, or dramatic poem.

It is my intention to resume her history in the course of this work; and, in the mean time, I shall observe, that she was born at *Tihotra* (or *Tri-hotra)*, to the west of *Dehli;* acknowledged to be the same place which is now called *Tehora* or *Tehaura*, and *Tahora* in the *Peutingerian* tables, near the river *Sutluj: Tihotra* is also supposed to be the same with *Tri-garta*, a place often mentioned in *Hindu* books.

That goddess was the daughter of AURVASA, who presides over the elementary fire, and is most inimical to the *St'hawars*, and their lord and *pati* of course.

The story of the two doves, mentioned in my essay on *Semiramis*, is unknown to the *Pauranics;* but there are some legends about them in the western parts of *India*, where they apply them to, or, perhaps, framed them, in consequence of the two doves found by MOHAMMED in the *Caaba* at *Mecca;* which they claim, with some reason, as a place of worship belonging originally to the *Hindus*.

The misfortune which befel MAHA'-DEVA is well known: but the discerption of the sacred *Linga* is represented, in the *Purānas*, in a different light. It was divided into twelve parts, besides many splinters. These twelve *Lingas* preside over the twelve months of the year. I was concerned, for a long time, that I could not discover the least vestiges of the legends concerning PERSEUS, ANDROMEDA, and PEGASUS, nor even the names of the principal characters: but these I have lately found in the *Yantra-rája*, and other books, with a most ample account of the thirty-six *Decani*, so famous

in *Egyptian* astronomy, and called *Drescán* in *Sanscrit.*

PERSEUS is called there PRETAS'IRA, or the man with the *Larva's* head, and the same situation is assigned to him in the heavens. He is also called S'AILA-MUC'HA (or having a stony face or head), alluding to the head of MEDUSA, which turned the beholders into stone. PEGASUS is also mentioned there under the name of SAMU'DRA-PACSHI, or the bird of the ocean. He is likewise called SAMU'DRA-PADA, because his hindparts and feet are concealed in the ocean. The lesser horse is called *Hayagriva:* but the legends of all these are still wanting, except the last, which will appear in the course of this work. ANDROMEDA is called VEJA'RA', and is represented with her head shaven, and her hands bound in fetters. CASSIOPEA is called LEBANA', and CEPHEUS NRĬPA or NRĬ-RUPA, and *Persian* authors say, he is the same with CAI-CAOUS. He is slightly mentioned in other *Hindu* books as a great king. He was the father of the CEPHENES, and *Cephisene* was their native country; in *Sanscrit Cápis'áyana.* CAPES'A is CEPHEUS, and *Cápis'a* is the patronymic appellation of his descendants, called also *Sihlucas.*

My essays on the chronology of the *Hindus* and mount *Caucasus,* are almost entirely free from the forgeries which I have stated, because my chief pandit had little to do with them. I recollect only three instances in which he interfered; and in them the legends were, as usual, disfigured by him. They are legends respecting PROMETHEUS and the *Eagle;* with some particulars relating to *Bámiyan* and the *Lipari* islands. *Garúda's* den is well known to this day, to pilgrims, and the *Hindus* of these parts. The place is called *Shibr,* in Major RENNEL's maps,

for *Shabar;* and it is not far from *Bámiyan.* There *Garúda* used to devour all the *Shabaras* who passed by; and, in the *Purán'as,* all savage tribes are thus called. Amongst others were some servants of MAHA'-DEVA whom he devoured; this drew upon him the resentment of that irascible deity, whose servants are called *Pramat'has:* hence, probably, the ground-work of the fable of PROMETHEUS and the Eagle. All the rest is an improvement, from what the Pandit gathered out of our conversations on the subject of ancient mythology. His account of *Bámiyan,* from the *Budd'ha-dharma-charitra* must be rejected till its genuineness be ascertained. There is such a book at *Benares,* but all my endeavours to procure it have been fruitless. In this legend he has certainly adopted admirably the manner, style, and notions of the followers of BUDD'HA, and the idiom of the language of their books. I have seen the original legend from which he framed his own, about the islands of *Lipari,* but it has not the least relation to these islands, and belongs to some place in the mountains to the north of *India.*

In like manner, many of the legends cited in my essay on *Egypt,* though they have a striking affinity with those of that country, are not expressly said to belong either to that or to any particular country, being related in general terms. In these cases, my Pandit inserted the name of *Egypt,* and if the name of any other country was mentioned, he erased it, and put that of *Egypt* in its place. Yet the similarity between these legends, and many more which are quoted in the course of this work, and the authenticity of which may be depended upon, with those of the *Egyptians* and other mythologists, is so striking, as to evince their original identity: for so near a coincidence, in my humble opinion, could not have been merely accidental.

It evinces also some remote communication, at least, if not some affinity, at an early period, between the nations among which we find these legends equally current.

In the *Hindu* books we read of some princes who raised mountains of gold, silver, and precious stones; some three; others only one: but whether this be applicable to *Egypt* does not appear, rather the contrary. It was, however, a practice formerly, and, if restricted to a single pyramid, it was intended for the mountain of God, the holy mount *Meru.* If three pyramids were constructed, they were intended to represent the three peaks of *Meru.* There is a beautiful pyramid at *Sarnáth* near *Benares*, built by a king of *Gaur*, or *Bengal.* It is conical, and of earth, with a coating of bricks, and is about seventy feet high. In the inscription found there some years ago, it is declared to be intended as a representation of *Meru*, which is represented of a conical figure by the *Hindus*, but like a square pyramid by the followers of Budd'ha. The tower, or pyramid of *Babel*, was of a square form, with seven stages or steps, like *Meru.*

The recession of the sea from the valley of *Egypt* is no where mentioned: but the same miracle is recorded as performed by several holy men, particularly on the western shores of *India.* Indeed, whenever the *Hindu* writers treat of the accession of lands, which were formerly occupied by the sea, they never fail to attribute it to the prayers of some holy personage.

In the course of my correspondence with the venerable Sir William Jones, the Institutor and first President of the *Asiatic* Society, and my patron in Oriental literature, I mentioned the discoveries which I thought I had made, and particularly re-

specting *Ethiopia* and *Egypt*. He expressed his surprise; but could not be brought to believe an early, or even any communication whatsoever, between the inhabitants of those countries and the *Hindus*. As I was just entering upon my studies and literary enquiries at that time, he wrote me candidly, that he was afraid I had been misled by enthusiasm, and cautioned me not to trust to the verbal accounts of the *Brahmens;* but requested that I would, for his satisfaction, send to him the necessary written documents from the *Purán'as*. I complied with his request most chearfully, and sent him all my vouchers as correct as possible. After perusing them, he wrote to me nearly in the following words, the purport of which I recollect perfectly, but lament that his letter being mislaid, I cannot produce it.

" Having read the numerous passage you adduce " in support of your assertions, in their original lan- " guage, in the extracts you have sent me, both " alone and with a pandit, I am fully satisfied that " there existed an early communication between the " *Hindus* and the inhabitants of *Ethiopia* and *Egypt*."

He then informed me, that his collection of the *Purán'as* being incomplete, he had not been able to compare all the extracts which I had sent to him concerning *Ethiopia* and *Egypt*, but that he had found several of the most essential, such as the legends about NAIRRĬT and the PALLI, and that he could bear testimony to their general accuracy. Besides, NAIRRĬT, and his being appointed guardian of the south-west quarter of the old continent, being well known to learned pandits, they had pointed out to him several passages in other *Purá-n'as* and *Sanscrit* books, relating to NAIRRĬT, S'ANC'HA-DWÍPA, &c. so that he was fully convinced

of their genuineness and antiquity; and as for the others of less importance, he did not entertain the least doubt about their being equally genuine. He added, that learned pandits were, besides, well acquainted with the general outlines of most of the other legends I had produced; and concluded by saying, that he intended to make some remarks on my essay on *Egypt*, in which he would express his conviction in those terms.

In the remarks which Sir William Jones did afterward subjoin to my essay, and which were published with it in the third volume of the transactions of the *Asiatic* Society, he could not have intended a stronger public testimonial than that which he had communicated to me privately. But as the terms of one passage, relative to the *Sanscrit* papers which I transmitted to him, as taken from the *Purán'as*, and other books, might be understood to imply a more general collation of my extracts with the original works, than had taken place, or could have been meant, I have thought it incumbent on me to add the preceding explanation of the real circumstances.

I shall ever lament that I was the cause of Sir William Jones being thus misled like myself. I have shewn that I was exposed to imposition; first, from the nature of my literary pursuits; and, in the second place, from the confidence which I reposed in the integrity of my native assistants, and more particularly my chief pandit. This no longer exists, and of course no similar deception can now take place. If a word, or a passage of importance in any manuscript, bears the least mark of adulteration, it must be given up, unless corroborated by collating it with other books, which are totally free from suspicion.

I have prepared two copies of my vouchers, one for the *Asiatic* Society, and the other for the Col-

lege of *Fort William*. I have already presented one to Mr. COLEBROOKE; and I take this opportunity to acknowledge the friendly assistance I have always received from that gentleman, and his ready communication of every sort of information that could be of use to me, through the whole course of my literary pursuits, and for which I return, most gratefully, my most sincere and hearty thanks: and I candidly acknowledge, that without his assistance I should never have been able to bring to a conclusion, in a manner satisfactory to myself, the present work, which, from its nature, and that of the materials, is attended with difficulties of which few people, unacquainted with the subject, can form any idea.

With regard to the *British* Isles, I soon found that the grand outlines were perfectly correct; even more so than those of my essay on *Egypt* and *Ethiopia*, which countries are very little known to the learned, and of which little is recorded in the *Puránas*, when compared to their holy land. My pandit had filled up the rest with a vast number of legends of all sorts, but most of them of little importance, and affording very little light on the subject.

The White Island, in the West, is the holy land of the *Hindus*. It is of course a sort of fairy land, which, as might be expected from their well known disposition, they have not failed to store with wonderful mountains, places of worship, and holy streams. It would be highly imprudent to attempt to ascertain their present names and situation; though I have occasionally broken through this rule, and may have been seduced, by a strange similarity of names and other circumstances, within the fascinating attraction of conjectural etymology.

Should the learned reject this, not deeming the presumptive proofs strong enough, I beg their indulgence in the few cases of this description, which certainly cannot mislead them. It is seldom the lot of authors to write without some enthusiasm, a portion of which may perhaps be necessary. I have faithfully collected whatever I could find in the *Purán'as* and other *Hindu* books, relating to this holy land, whether bearing some marks of truth, or obviously fictitious; and I solemnly declare that I have not the desire, either to defend or impugn the notions of the *Hindus*, as I conceive them, in regard to these Sacred Isles.

It would have been doing injustice to the subject, to have attempted to give an account of these Islands, without the geographical system of the *Hindus*, who believe them, and consider them as a terrestrial paradise.

I have, therefore, premised an ample, but still incomplete system of geography, according to the followers of BRAHMA' and BUDD'HA.

I have added an essay on the chronology of the *Hindus* and the emperors of *India;* with geographical, mythological, and historical sketches of the intermediate countries from *India* to the *British* Isles, inclusively. It will appear, in the course of this work, that the language of the followers of BRAHMA', their geographical knowledge, their history and mythology, have extended through a range or belt about forty degrees broad, across the old continent, in a South-East and North-West direction, from the *Eastern* shores of the *Maláya* peninsula to the Western extremity of the *British* Isles.

Through this immense *range*, the same original

religious notions re-appear in various places, under various modifications, as might be expected; and there is not a greater difference between the tenets and worship of the *Hindus* and *Greeks*, than exists between those of the churches of *Rome* and *Geneva*. With regard to the languages, both ancient and modern, through this *belt*, their radical words, verbs and nouns, with others regularly deduced from them, are in great measure *Sanscrit*. It cannot be expected that their respective grammars should preserve much affinity. It is the fate of every language, when in a state of decay, to lose gradually its cases, moods, and tenses of the second order, and to employ auxiliary verbs, which the *Sanscrit* uses sparingly, and by no means through necessity. I have observed that gradual state of decay in the *Sanscrit* language, through the dialects in use in the *Eastern* parts of *India* down to the lowest; in which last, though all the words are *Sanscrit* more or less corrupted, the grammatical part is poor and deficient, exactly like that of our modern languages in *Europe*, whilst that of the higher dialects of that country is at least equal to that of the *Latin* language. From such state of degradation no language can recover itself: all the refinements of civilization and learning will never retrieve the use of a lost case or mood. The improvements consist only in borrowing words from other languages, and in framing new ones occasionally. This is the remark of an eminent modern writer, and experience shows that he is perfectly right. Even the *Sanscrit* alphabet, when stripped of its double letters, and of those peculiar to that language, is the Pelasgic, and every letter is to be found in that, or the other ancient alphabets which obtained formerly all over *Europe*, and I am now preparing a short essay on that interesting subject.

The principal object I have in view in this essay is to prove that the Sacred Isles of the *Hindus*, if not the *British* Isles, are at least some remote country to the North-west of the old continent; for I cannot conceive that they are altogether Utopian or imaginary. But a secondary one also is to prove that the greatest part of the legends, which formerly obtained all over the Western parts of the world, from *India* to the *British* Isles, were originally the same with those found in the mythology of the *Hindus*. Besides these, they had also in every country local notions and legends, as well as local Deities, and which of course were peculiar to them.

The principal essay on the Sacred Isles in the West will appear, with the permission of the *Asiatic* Society, in a future volume of their Researches; and it is proposed to publish the series of essays mentioned with that work in the following order.

The INTRODUCTION.

ESSAY I. On the geographical systems of the *Hindus*.

—— II. Geographical and historical sketches on *Anu-Gangam*, or the *Gangetic* provinces.

—— III. Chronology of the kings of *Magadha*, emperors of *India*.

—— IV. On VICRAMA'DITYA and S'AL'IVA'HANA, with their respective æras.

—— V. The rise, progress, and decline of the *Christian* religion in *India*.

—— VI. The Sacred Isles in the West.

PART THE FIRST.

CHAPTER THE FIRST.

OF THE GEOGRAPHICAL SYSTEMS OF THE HINDUS.

SECTION I.

General Ideas of these Systems.

THE *Hindus* have no name, either for geography or geometry, but we are not to infer thence, that they have entirely neglected these two sciences. They are certainly pretty well acquainted with geometry, but they consider it, and with some reason, as part of the science of numbers; and neither can our denomination of geometry, which signifies surveying, be considered as a very apposite term. In the time of the famous JAYA-SINHA, *Raja* of *Jayapur*, the learned at his court gave it the name of *Cshétra-dersana*, or the inspection and knowledge of figures; and a treatise on geometry, composed by his command, is still called by that name. These elements begin with an inquiry into the properties of lines simply combined together, which combination is called *acshétra*, or informous. They then proceed to the consideration of regular figures or *cshétra*, as a triangle, a square, cube, &c. whilst an angle is called *acshétra*, or informous.

The *Hindus* give various names to geographical tracts, such as *Bhúvana-Cósa*, or treasure of terrestrial mansions; *Cshétra-Samása*, or combination of countries; *Bhúvana-Sagára*, or ocean of

mansions or habitable places. Such a geographical treatise is cited by Signor BAYER, under the corrupted appellation of *Puwana-Saccaram*. Another treatise in my possession is called *Trailócya-darpan'a*, and was given to me by the late Mr. REUBEN BURROW, who procured it near *Hardwár*. Its name signifies the mirror of the three worlds, meaning heaven, earth, and hell, and answers exactly to the treatise ascribed to Saint PATRICK, and called *Dissertatio de Tribus Locis*, or *habitaculis*. It was written some hundred years ago, and the copy I have is of the year 1718 of VICRAMA'DITYA. In several *Purán'as*, there is a section expressly on the subject of geography, and for that reason called *Bhúvana-Cós'a*. It is also denominated *Bhú-c'han'da*, or section of the earth. Except the sections contained in the *Purán'as*, geographical tracts are in general written in the spoken dialects, and are extremely scarce, as they are discountenanced by the sacerdotal class, as are historical books. This they have often acknowledged to me, saying, they have the *Purán'as*; what do they want more? Besides, as they are written in the vulgar dialects, they are the works of persons not sufficiently learned and informed, and very apt, as I am told, to hazard occasionally a few heretical notions. They are not, however, so strict in the *Dekhin*, and the western parts of *India*: there, I am credibly informed, they have treatises expressly on the subject both of history and geography.

There are two geographical tracts in *Sanscrit*: the first, called *Vicramapratidés'a vyavast'há*, is attributed to VICRAMA'DITYA, probably the one of that name, who lived, as we shall see hereafter, in the fifth century, and it is said to consist of eighteen, or twenty thousand *slócas* or lines: the second, called *Munja-pratidés'a-vyavast'há*, is attri-

buted to king MUNJA, the uncle of the famous BHÓJA, who lived in the latter end of the tenth century. It is nearly the same with the former, including some amendments and additions. These two geographical treatises cannot but be curious and interesting, but unfortunately, they are not to be found in this part of *India*. They are however pretty common in the Western parts of it, and particularly so in *Gurjarát'*, where they have been seen by several respectable pandits of that country. The *Trai-Lócya-darpan'a*, which I mentioned before, is according to the system of the followers of BUDD'HA, and is written in an uncouth dialect of the inland parts of *India*, with a strange mixture of *Sanscrit* words and phrases.

The *Cshétra-Samása* is another geographical tract by the *Jainas*, which I lately procured. It is written in *Pracrit*, asserted by some to be the same with the *Báli* or *Mágad'hi* dialect, but probably somewhat different from that used in the *Burman* empire, *Siam* and *Ceylon*. The *Báli* or *Mágad'hi*, was the language used at the court of the emperors of *India*, kings of *Magad'ha* or *Bahar*, and called also *Bali-putras*, because they were descended from the famous BALI, or NANDA; and their kingdom is denominated after them *Poli* by the *Chinese*. This last is accompanied by a copious commentary, with several fanciful delineations of the world, and of mount *Méru*.

With regard to history, the *Hindus* really have nothing but romances, from which some truths occasionally may be extracted, as well as from their geographical tracts. Those in *Sanscrit* are the *Charitras*, or actions of VICRAMA'DITYA, of king BHÓJA, and others.

The *Vrĭhat-Cat'há* is a collection of historical anecdotes, sometimes very interesting, and consists of 22000 *slócas*.

In the spoken dialects, there is the romance of Prĭthu-ra'ya, containing an account of his wars with Sultan Ghori; part of it is in my possession. It is exactly in the style of our old romances in *Europe*, with nearly the same proportion of historical truth.

In several of the *Purán'as* there is an account of the principal events, which were to take place during the *Cáli-yug* *. These come down as late as the eighth and ninth centuries, except in the *Agni* and the *Bhavishya Purán'as*, in which there is an account written, as usual, in a prophetical style, of the principal events, which were to take place, as late as the twelfth century. In the time of Acbar, a supplement was added, down to Huma'yun, as is obvious from the lists of the kings of *Málwa* in the second volume of the *Ayin-Acberi*. Since that time another supplement has been added, down to the beginning of the eighteenth century.

It is universally acknowledged, that the court of the kings of *Magad'ha*, now the province of *Bahar*, was once, one of the most brilliant that ever existed, and that learning was promoted there, through its various branches. Their vernacular language was cultivated, and many valuable treatises were written in it, in order to diffuse knowledge among all classes of men. This, I am informed, was carried so far as to incur the resentment of the whole sacerdotal class, who unanimously declared, that

* The *Brahmánda*, *Bhágavat*, *Vishn'u*, and *Váyu Puránás*. Sections on Futurity.

Magad'ha could no longer be considered as a proper country for the twice-born to live in, without losing the fruit of their good works, and greatly impairing their energy in the paths of righteousness.

Besides geographical tracts, the *Hindus* have also maps of the world, both according to the system of the *Pauránics*, and of the astronomers: the latter are very common. They have also maps of *India*, and of particular districts, in which latitudes and longitudes are entirely out of question, and they never make use of a scale of equal parts. The sea shores, rivers, and ranges of mountains, are represented in general by straight lines. The best map of this sort I ever saw, was one of the kingdom of *Napál*, presented to Mr. HASTINGS. It was about four feet long, and two and a half broad, of paste board, and the mountains raised about an inch above the surface, with trees painted all round. The roads were represented by a red line, and the rivers with a blue one. The various ranges were very distinct, with the narrow passes through them: in short, it wanted but *a scale*. The valley of *Napál* was accurately delineated: but toward the borders of the map, every thing was crowed, and in confusion.

These works, whether historical or geographical, are most extravagant compositions, in which little regard indeed is paid to truth. King VICRAMA'DITYA had four lakhs of boats, carried on carts, for ferrying his numerous armies over lakes and rivers. In their treatises on geography, they seem to view the globe through a prism, as if adorned with the liveliest colours. Mountains are of solid gold, bright like ten thousand suns; and others are of precious gems. Some of silver, borrow the

mild and dewy beams of the moon. There are rivers and seas of liquid amber, clarified butter, milk, curds, and intoxicating liquors. Geographical truth is sacrificed to a symmetrical arrangement of countries, mountains, lakes, and rivers, with which they are highly delighted. There are two geographical systems among the *Hindus*: the first and most ancient is according to the *Purán'as*, in which the Earth is considered as a convex surface gradually sloping toward the borders, and surrounded by the ocean. The second and modern system is that adopted by astronomers, and certainly the worst of the two. The *Paurán'ics* considering the Earth as a flat surface, or nearly so, their knowledge does not extend much beyond the old continent, or the superior hemisphere: but astronomers, being acquainted with the globular shape of the Earth, and of course with an inferior hemisphere, were under the necessity of borrowing largely from the superior part in order to fill up the inferior one. Thus their astronomical knowledge instead of being of service to geography, has augmented the confusion, distorted and dislocated every part, every country in the old continent. The *Paurán'ics* represent, in general, the Earth as a flat surface; though it appears from the context to be of convex figure, with a gentle slope all round toward the ocean, which is supported by a circular range of mountains, called *Locálocas* by the *Hindus*; *Caf* by *Musulmans*, and by our ancient mythologists *Atlas*; *Dyris, Dyrim*, from the *Sanscrit tír*, and *tíram*, the *margin* term or *border* of the world, or the *Iarder* (Earth's) *Thremi* in the *Edda Sæmudr*.

The *Jews* and the ancients in general, considered the Earth as a flat surface. This idea was certainly a most natural one, till the study of astro-

nomy had undeceived the learned, who, as usual at these early times, did not impart this discovery to the vulgar.

On the higher parts, and in the center of the Earth, the *Hindus* place a mountain standing like a column 84000 *Yojanas* high, 32000 broad at the top, and 16000 at the bottom. It is circular, and in the shape of an inverted cone. This idea prevailed once in the West: for, when CLEANTHES asserted that the Earth was in the shape of a cone, this, in my opinion, is to be understood only of this mountain, called *Méru*, in *India* *. ANAXIMENES said that this column was plain, and of stone: exactly like the *Méru-pargwette (parvata)* of the inhabitants of *Ceylon*, according to Mr. JOINVILLE, in the seventh volume of the *Asiatic* Researches. This mountain, says he, is entirely of stone, 68000 *Yojanas* high, and 10000 in circumference, and of the same size from the top to the bottom. The divines of *Tibet* say, it is square, and like an inverted pyramid. Some of the followers of BUDD'HA †, in *India*, insist, that it is like a drum, with a swell in the middle like drums in *India;* and formerly, in the West, LEUCIPPUS had said the same thing; and the *Baudd'hists* in *India* give that shape also to islands. This figure is given as an emblem of the reunion of the original powers of nature. *Méru* is the sacred and primeval *Linga:* and the Earth beneath is the mysterious *Yóni* expanded, and open like the *Padma* or *Lotos*. The convexity in the centre is the *Os Tincæ*, or navel of VISHNU: and they often represent the physiological mysteries of their religion, by the emblem of the *Lotos;* where the whole flower signifies both the Earth, and the two principles of its fecunda-

* PLUTARCH de placit. philosoph.

† *Trailocya-derpana.*

tion: the germ is both *Méru* and the *Linga:* the petals and filaments are the mountains which encircle *Méru*, and are also the type of the *Yóni:* the four leaves of the calyx are the four vast regions toward the cardinal points: and the leaves of the plant are the different islands in the ocean round *Jambu:* and the whole floats upon the waters like a boat. The *Hindus* do not say, like the *Chaldeans*, that the Earth has the shape of a boat, which is only the type of it. It is their opinion, I do not know on what authority, that at the time of the flood, the two principles of generation assumed the shape of a *boat* with its *mast*, in order to preserve mankind. Enthusiasts among the *Hindus* see these two principles every where, in the clefts of rocks, commissures of branches, peaks among mountains, &c. The Earth is typified by a *boat;* the *Argha* of the *Hindus*, the *Cymbium* of the *Egyptians*, are also emblems of the Earth, and of the mysterious *Yóni*. The *Argha*, or *Cymbium*, signifies a vessel, cup, or dish, in which fruits and flowers are offered to the Deities, and ought to be in the shape of a boat; though we see many that are oval, circular, or square. IS'WARA is called *Argha-nát'h'a*, (or the lord of the broad-shaped vessel*:) and OSIRIS, according to PLUTARCH, was commander of the *Argo*, and was represented by the *Egyptians* in a boat, carried on the shoulders of a great many men, who, I think, might be called, with propriety, *Argonauts*. The ship, worshipped by the *Suevi*, according to TACITUS, was the *Argha*, or *Argo*, and the type of the mysterious *Yóni*. The *Argha*, with the *Linga* of stone, is found all over *India* as an object of worship. It is strewed with flowers, and water is poured on the *Linga*. The rim represents *Yóni*, and the *fossa navicularis*, and instead of the *Linga*,

---

* *Asiatic* Researches, Vol. III, page 364.

I'S'WARA might be represented standing in the middle, as they used to do in *Egypt*.

II. The *Hindus* have peculiar names for the four cardinal points, derived from their respective situation, with regard to a man looking toward the rising sun, which is the most proper time to worship him. The East, from that circumstance, is called *Para*, and *Púrva*, or *before:* the West, *Apara*, and *Pas'chima*, or *behind.* The South, being then to the right, is called *Dacshin'a*, and the North *Váma*, or the *left*.

From *dacshin'a* comes obviously the *Greek dexion:* the *Latin dexter*, *dexterum* is from *dacsh-tír*, or *dacshatíram*, towards the right. *Pas'chima* is obviously a derivative form, the root of which, *pas'cha*, is no longer to be found in *Sanscrit*, unless in other irregular forms, as *pashchát*; but it is still in use in the spoken dialects, in which it is pronounced *picha*, and from *pas'cha* is derived the *Latin post*, or behind, and *postumus* for *postimus*, answers to *pas'chima*, or *pas'chum*, in the spoken dialects. *Para* is the *English* word *fore:* thus we say a fairy from the *Persian Peri.* It is also pronounced *pra*, as in *pra-páda*, the *fore-foot*, or fore part of the foot, including the *Tarsus* and *Metatarsus;* and from it is derived the *Latin præ* and the *Greek pro.* From this circumstance there arose a peculiar division of the old continent; the midland countries are called *Mad'hyama*, or in the middle; those toward the East *Para*, but more generally *Púrva: Para* is used oftener as an adjective noun, as *Para-Gan'dicá*, the Eastern *Gan'dica*. The countries towards the West are denominated *Apara*, *Apar.* Its derivatives are *aparam*, *aparen'a*, an adverb; *aparica*, *aparicá*, *aparicam*, masculine, feminine, and neu-

ter*. This division is used in scripture, in which the apellations of *Parvaim* and *Ophir*, signify the countries to the East and to the West. These denominations are not deducible from the *Hebrew*, but only from the *Sanscrit* language: and *Apar* and *Aparica* are the same with *Ophir*, *Aphar*, and *Africa*. In *Hebrew*, the word *Ophir*, without points, is written *Aupir*; and the learned bishop LOWTH derives *Africa* from *Aupir* or *Auphir*. That country, we are told, was thus called from a certain APHROS, or APHRAUS, who was the son of SATURN and the nymph PHEAURA, according to the *Paschal* chronicle. He was the brother of PICUS and CHIRON, and is called APHAR by CEDRENUS. Another ancient author, as I have somewhere read, calls him OPHRIS and APHRA; and says he was a companion of HERCULES: and ISIDORUS adds†, that the apellation of *Aser* was supposed to have been *Aper* originally. The word *Aparica* is then synonymous with *Ibericus*, *Iberica*, &c. The *Latin* word *Apricus* seems to have been used to denote a westerly situation, as being more favoured with the congenial warmth of the sun. This ridiculous notion, still prevalent among the country people in many parts of *Europe* and in *India*, originated from a supposition, that the Earth was a flat surface. Thus they say, that part of the country is fertile, being under the sun of three; but the other is not so, being under the sun of nine o'clock. The word *Aparica* is not used by the followers of BRAHMA' to denote the Western parts of the world; but it is constantly so by the *Baudd'hists*. Thus in *Ava* and in *Ceylon*, the Western parts of the world are called, by Mr. Jo-

* *Aparica* is a regular derivative form, but not in use in this part of *India*: yet it is in the dialect from the *Sanscrit* current in *Ceylon*, where it is written *Aprica*, and *Aparega*.

† ISIDORUS de originibus.

INVILLE*, *Aprica-Dani*, and *Aparehgo-Daneh* by Captain MAHONY. These denominations are *Sanscrit*, *Aparica-Dhání* the Western mansions, or countries. *Dhání* is a place of abode in *Sanscrit*: in the language of *Tibet*, it is *den*, and signifies also a country †; and the word *den*, in English, claims the same original derivation. The *Burmahs*, say *Amaragoja*, which is still a further corruption like *Apparehgo*. The Eastern parts are called, in *Ceylon*, *Púrwa-weedeseyeh* from the *Sanscrit Purva-deha*, or *Purva-videha*, or *Videhasya* in a derivative form, the country of *Purva*, or toward the East. In *Ava* they say *Pioppi-videha*, but it should be *Proppi-videha*; for Mr. BUCHANAN, in his interesting account of the learning and manners of the *Burmahs*, informs us, that in that country they generally use the letter I for R; thus in the *Bengali* dialect they say *Purob*, and *Pob* for the East. The North is called, by the *Sinhalas*, *Ootooroocooroo-Dewehinneh*, according to Captain MAHONY, from the *Sanscrit Uttara-curu*, still used to signify the Northern parts of the old continent. The same is called *Uncheugru* by the *Burmahs*, according to Mr. BUCHANAN; but in the account of P. SANGERMANO, lent to me by Captain ROMAINE, it is *Undeugru*, which seems to be but a corruption from *Uttara-curu*. The Southern parts are called *Jambu-dwípa* in *Ceylon*, and *Zabu-díb* by the *Burmahs*. In the *Vayu Purán'a*, the Eastern part of the old continent is equally called *Purva-dwípa* as in *Ceylon* and *Ava*, and the river *Oxus* is called *Apara-gan'dicá*, or Western *Gan'dicá*; whence we may safely conclude, that they said also *Apara-dwípa* for the West. *Apareyam* and *Apareya* are regular derivative forms from *Apara*; and from them is obviously derived *Iberia*, the ancient name of

* *Asiatic* Researches, vol. VII.
† Alphab. *Tibet*, p. 588, &c.

the Western parts of *Europe*, including *Gaul* and *Spain*. HOMER uses, in that sense, the appellations of *Hypereia* and *Apera**; *Abera* is found in *Apollodorus;* for thus we must read instead of *Abdera*, as we shall see hereafter. It is well known to the learned, that, at a very remote period, *Europe* and *Africa* were considered but as one of the two grand divisions of the world; and that the appellation of *Africa* was even extended to the Western parts of *Europe*, all along the shores of the *Atlantic*. Hence the West wind, or *Zephyrus*, is called the *Lybian* or *African* wind; and HOMER, if I am not mistaken, makes *Zephyrus* to blow directly from *Lybia*, or *Africa* into *Greece*.

Instead of *para* and *purva*, the word *much'a*, face, or front, is often used, particularly in the spoken dialects, and some times with the augmentative particle *su;* and in the dialect of *Bengal*, *sho;* thus they say *sho much*, right in front, due East. Though equally grammatical, yet it is not usual to say, *Su-para*, *Su-purva*, *Sho-para*, or *Sho-purva*, in that sense. It seems, however, that it was once in use; for in Scripture we have *Parvaim* and *Se-parvaim*, or *Se-pharvaim*, the name of a country, the situation of which is by no means well ascertained; yet it is probable, that it was near the mountains of *Se-phar*, or *Se-para*, towards the East, according to Scripture; and it is not unreasonable to suppose, that *Parvaim*, *Se-pharvaim*, with the mountains of *Se-phar*, belong to the same country, which I take to be *India*, called by the *Copts*, *Sopheir;* and by no means to be confounded with *Ophir*. *India* is also called, by HESYCHIUS and JOSEPHUS, *Su-phir*, or *Su-pheir;* and *So-phora* by PROCOPIUS †.

---

* ODYSS. Lib. VI°. v. 4, et Lib. VII°. v. 8, Apollod. Biblioth. p. Lib. II. §. 10.

† PROCOPIUS in Schol. ad Lib. 3, Regum.

The *Sanscrit* appellation of *Purvam*, for the Eastern countries, is written *Parvim* in *Hebrew* without points; but with points it becomes *Parvaim*, which appears in a plural form. The *Septuagint* read *Pharvaim;* and, in that case, in the singular number, it should be *Parva* or *Pharva.* In the course of etymological enquiries, I have always found it more convenient to read the *Hebrew* without points, when the affinity is obviously greater. Thus the word in question is written without points *P-r-v-i-m*, or with the vowel inherent to every consonant, as in *Sanscrit*, and the common *Nágri*, *Pa-ra-va-i-ma:* the only difficulty in *Nágri* and *Hebrew*, is to find out, in a word, what consonants are to coalesce. The words *Sephar*, and *Se-pharvaim*, without the points, are to be read *Se-para* and *Se-parvim*.

The mountains of *Se-phar* seem to be that range called *Be-pyrrus* by Ptolemy, and placed by him to the North of *India*, answering to the first range, or snowy mountains. This range, in Ptolemy, begins at *Hardwár*, and instead of *Bepyrrus*, several authors read *Sepyrrus*. In *Sanscrit*, *Su-para*, and *Vi-para* or *Bi-para*, for thus it is generally pronounced, are synonymous, and perfectly grammatical, though perhaps never used; and signify *right before*, due East. *Bi-para* signifies also Easternmost; and, in its first acceptation, is the same with *before* in *English*, which is now synonymous with *fore*, or *afore:* yet there is no doubt but that formerly it was otherwise, and that *before* signified *right afore*. It is true, that the particles *su*, and *bi* like *ge*, in the dialects from the *Gothic*, are often used without enhancing the signification of the word they are prefixed to. Thus *fore* and *before*, *para*, *su-para*, *bi-para*, and *su-mucha*, or *sho-mucha*, in *Bengalee*, signify the same thing. The posterity

of SHEM, we are told in scripture, dwelt in the country extending *from Mesha as thou goest unto Sephar, a mount of the East.* This seems to be meant as an explanation of the word *Sephar*, and at all events implies, that this mountain was a great way to the Eastward. In *Europe* they called the West *Hesperus*, and the country toward the West *Hesperia*. That country is considered by the *Pauránics*, as the abode of the Gods, or *Surálayam*, an appellation well known to the learned, and applied by them, in conformity with the *Púránas*, to the Westernmost part of *Europe*, or the *British Isles.* Another denomination for *Surálayam*, and which might be *Sanscrit*, is *I'sá-pura*, or *I's'-pura*, though probably never used. This was pronounced by the *Gothic* tribes *As-burh*, *As-byrig*, *As-purgium:* they said also *As-gard*, which implies the same thing. There IS'A, or IS'WARA VISHNU, resides with all the Gods.

The word *Is'a* was pronounced *Asos*, *Asioi*, by the *Greeks*, *As* by the *Goths;* and for *puri*, or *pura*, the *Goths* said *burh*, *byrig*, or *burgh;* the *Greeks pyrgos.* The words *As-puri*, *As-burh*, *Aspurgium*, *Hesperus*, are pronounced by the *Persians*, *As-burj;* where *burj* or *burujs*, is synonymous with *puri*, *purh*, &c. In their romances, we see *Caicaus* going to the mountain of *Az-burj*, or *As-burj*, at the foot of which the sun sets, to fight the *Div-sefid*, or white devil, the *Tára-daitya* of the *Puránas*, and whose abode was on the seventh stage of the world, answering to the seventh zone of the *Baudd'hists*, and the sixth of the *Puránics;* or, in other words, to the White Island. The *Goths*, it is true, placed *As-burh*, or *As-gard*, in the East; for when they had conquered the Western abode of the Gods, they found none there; and rather than give up this idle notion, they supposed that

As-burh, or *As-gard*, was in the East. Besides mount *Méru* is another *Surálayam*, *As-burh*, *As-gard*, and is in the East.

The *Jews* and the *Arabians*, to this day, call the South *Yaman*, *Yamin*, and *Jamin*, which imply the right. The *Hindus* call the South also *Yámya* or *Jámya*, and *Yámasya*; because YAMA (PLUTO), called also YAMAN, is the guardian of that quarter: and when PLINY * says, that the *Hindus* called the South *Dramasa*, it should be *Diamasa*, from *Jamasya*, as *Diamuna* for *Jamuná*, the river *Jumná*. We have seen that *dexion* in *Greek*, and *dexter*, *dexterum* in *Latin*, are derived from the *Sanscrit dacshin'a*, *dacsha-tír*, and *dacsha-tíram*: and it is not improbable, but that *sinister*, *sinistrum*, *sinisterium*, or the left in *Latin*, and *aristeros*, *aristeron* in *Greek*, are equally derived from the *Sanscrit 'Senis-tír*, or *'Senis-tíram*, and *A'rasya-tíram*, or *A'ras-tíram*; that is to say, SATURN'S quarter, in the same manner that the *Hindus* say, YAMA'S quarter, for the South; for SENIH, or A'RAH, resided in the North: JUPITER gave him that quarter for his residence, and made him guardian of it. SATURN, according to CICERO and PLUTARCH, was peculiarly worshipped by the nations in the Western parts of *Europe*, and in the North; though the latter says, that, in process of time, his worship began gradually to decline there. He was born in the left, and perished on the right. The *Greeks* and *Romans* considered the South as on the right, and the North on the left. Among them, as well as the *Hindus*, the right was considered as more honourable, and, of course, in worshipping and performing processions, they turned towards the right, keeping the object of their worship on

* Lib. 6°. c. XIX.

the right; but the *Greeks*, says PLINY, on these occasions, turn to the left: and, among the *Greeks* and *Romans*, in their races in the circus, they drove round the *Spina*, or ridge in the middle, keeping it all the while on their left. The *Hindus* seem to have always considered the four cardinal points in the same light; but various systems appeared at different times, in other parts of the world. EMPEDOCLES, according to PLUTARCH, maintained, that the summer solstice happened in the right, or North; and the winter solstice in the left, or South. This system prevailed once in the West, and of course the West was before, and the East *behind*, or *aparam*, *aperen'a*, *&c.* from that time the winter solstice was called by the *Latians*, *Hibernum*, which cannot be derived from *hyems*, winter. This last comes from the *Sanscrit hima*; and, in a derivative form, *haima* and *haimas*, snow; and *hyems* implies the snowy season: and mount *Haimos*, or *Hæmus*, in *Thrace*, signifies the snowy mountain; and as the West was then *before*, it was called *Su-para* or *Zephyrus*, *Se-phar* and *Sepyrrus*, like that famous range of mountains in the East, mentioned by PTOLEMY, and in the Bible. King JUBA, a famous antiquary, was also of opinion, that the North is on the right; and this is confirmed by ACHILLES TATIUS. The *Egyptians*, says PLUTARCH, placed the North on the right, and the South on the left. These alterations must have occasioned feuds among augurs and astrologers; and were, probably either admitted or rejected at different times, according to the power and influence of prevailing factions. This happened no less than four times in *Egypt*; and, of course, four times the points wherein the sun rises and sets, were considered in different points of view, and received different denominations; and well they might say to HERODOTUS, that the sun

had four times altered the time of its rising and setting. Twice it rose where it rose before; and twice it did set, where it was seen to rise before. All this happened, they said, without the least alteration in the climate of *Egypt*. These enigmas, or paradoxes, were much admired formerly, and they were not very willing to explain them.

The same thing happened in *Europe;* for the sun, shocked at the abominable repast of ATREUS, turned back, and set where it used to rise before; that is to say, an alteration took place in the application of the denomination of *before* and *behind*, right and left, with regard to the four cardinal points; and ATREUS is represented as a famous astronomer, who explained the yearly revolution of the Sun, performed in a contrary direction; in consequence of which the Sun is said, by the *Baudd'hists*, and also by *Brahmens*, to rise in the West, and to set in the East: and the famous mountain of *Astagira*, behind which the Sun disappears, is called also the mountain of the rising Sun, or *Udaya-giri*, and even *Mahodaya*. In the extracts from manuscripts, in the library of the king of *France*, there is one from the golden meadows of the famous MASOUDI, who lived in the tenth century. The author says, that in the opinion of some philosophers, the renewal of the world would happen, when the circle of the ruling stars shall be accomplished; then what had been North will be South. But, according to the *Indians*, says he, the Sun remains 3000 years in each of the twelve signs, and performs his revolution in the heavens in 36,000 years. That, when he passes through the meridional signs, the world will be reversed; North will become South, and South will become North: that is to say, as I take it to be, the North will be considered as the right of the world, and the

South as the left. Some *Hindus* are of opinion, that, at the end of the *Calpas*, a total renewal of the world will take place, and every thing will be reversed; the gods will become devils, and the devils gods. The giants, they acknowledge, were *Púrva-dévas*, or the first gods. The *Egyptians*, perhaps, entertained the same notions, and the mythologists in the West certainly did.

III. Another division of the world, is into a mainland and islands, which is also that of scripture, in which the isles of the nations, or *Iie-hagoim*, are often mentioned. This division has also been admitted by *Musulmans*, who call them *Jezair-alomam*. Commentators understand by them, not only the islands, but also the peninsulas in the Western parts of the old continent; for in *Sanscrit*, *dwípa* implies only a country, with waters on both sides; so that, like *Jazirah* in *Arabic*, they may signify either islands or peninsulas; *dwípa* and *jazirah* are often used to signify countries bordering upon the sea only. By the isles of nations, the islands, peninsulas, and maritime countries in the West, and particularly in *Europe*, are understood: it is even so with the *Pauránics*, who are very little acquainted with the Eastern parts of the old continent, even to a surprising degree, and much less then we could reasonably suppose.

The most remarkable feature of this system is mount *Méru* in the centre, the *Olympus* of the *Hindus*, the place of abode of BRAHMA', and his *Sabhá* congregation, or court. This mountain made also part of the cosmographical system of the *Jews*; for ISAIAH, making use of such notions as were generally received in his time, introduces LUCIFER, in *Sanscrit* SWARBHA'NU, or light of heaven, boasting that he would exalt his throne

above the stars of GOD, and would sit on the mount of the congregation, in the sides of the North. *Méru* has also the name of *Sabhá*, because the congregation or assembly of the Gods is held there, on its northern side. The hill of GOD is also frequently alluded to in the psalms, though, in some instances, it seems to imply mount *Moriah*. *Musulmans* have admitted this mountain, under the name of *Caf*, though they confound it, in general, with the mountains of *Lócàlóca*, which surround the world: but when they say it is the *vatad*, or *pivot* of the world, this is to be understood of mount *Méru*, which the *Paurán'ics* describe exactly in the shape of a *pivot*; and even *Méru*, in *Sanscrit*, signifies an *axis* or *pivot*. According to ANQUETIL DUPERRON, the *Parsis* call this centrical mountain *Tireh*; and the whole world is equally surrounded by an immense range of mountains. In *Ceylon*, this surrounding range is called *Chacra-vartta*, according to Captain MAHONY*, which, in *Sanscrit*, signifies any thing in the shape of a ring or coit. The *Burmahs* call it *Zetkia-vála*, which word is pronouced *Sakwell* by Mr. JOINVILLE, and said to signify the world in general. In *Zetkia-vála*, *vála* signifies a ring, or any thing in an annular shape, from the *Sanscrit vályа*; and *Zetkia-vála*, or *Sakwell*, may be a corruption from *S'ácya-válya*, the ring of S'A'CYA or BUDD'HA, who is supposed to have made it. The Western mythologists supposed the world, and its seas, to be surrounded by a land, or continent, of a circular figure, according to PLUTARCH, and SILENUS's narrative, as related by ELIAN; and the pilot of the *Argonauts*, being near *Peuce*, or *Iceland*, was very much afraid of being driven on its shores †.

---

* *Asiatic* Researches, Vol. VII.
† Orph. Argonaut. Vol. XI, p. 187.

There are several divisions of the old continent; the first, and the most ancient, according to the *Purán'as*, is into seven *dwípas;* the *Baudd'hists* in *India* reckon eight of them, this number being a favourite one among them. The followers of BUDD'HA in *Tibet*, *Ceylon*, and *Ava*, have retained the *Bráhmenical* divisions, and reckon but seven. This division was made by PRIYAVRATTA, the eldest son of SWAYAMBHUVA, or ADAM, in his old age, and previous to his withdrawing into solitude. He had ten sons, and it was his intention to divide the whole Earth between them equally: but three of them renounced the world: their names were MED'HA', AGNIBHU, and MINA, or MITRA. In the same manner NEPTUNE divided the *Atlantis* between his ten sons: one of them had *Gades*, at the extremity of the *Atlantis* to his share. The *Atlantis* was probably the old continent, at the extremity of which is *Gades*. This island or continent is supported by VARA'HA on one tusk according to the *Paurán'ics:* but according to mythologist, in the West, ATLAS supported the heavens, though, he is said some times to support the world. The *Musulmans* say that the Earth is supported on the horns of a bull. This *Atlantis* was overwhelmed with a flood likewise; and it seems that by the *Atlantis*, we should understand the antediluvian Earth, over which ten princes were born to rule, according to the mythology of the West: but seven of them only sate upon the throne, according to the *Paurán'ics.* The names of these islands are *Jambu* proper or *India*, *Cus'a*, *Placsha*, *S'álmali* or *'Salmala*, *Crauncha* or *Croun'da 'Saca* and *Pushcara.* These *dwípas*, or countries, give their names to so many respective zones round *Meru*, which is the name the *Paurán'ics* give also to the *Poles.* If we disregard entirely the diagrams, or fanciful schemes, of the astronomers, and adhere

to the text of the *Purán'as*, we shall immediately perceive that these seven zones are really our seven climates: for *Jambu*, or *India*, is the first, and *Pushcara* is declared to be at the furthest extremities of the West, and in the same climate with *Uttara Curu*; which last is expressly said to be the country lying South of the Northern ocean. *Pushcara* is the *Thule* of PTOLEMY, and the modern *Iceland*, under the Arctic circle, at least, the sensible one. It is true that the seven climates, in general, were not supposed to extend much beyond the mouth of the *Borysthenes*: but PTOTEMY, and AGATHEMERUS, by dividing each climate into three parts (like the *Hindus*, who divide the seven zone-like regions of Heaven, Hell, and Earth into three, the beginning, the middle, and the end), thus made twenty-one subordinate climates, extending from the equator to the polar circle. Every climate was denominated from some famous city, country, or island in it; thus we have the zone or climate of *Meröe*, that of *Rhodes*, &c. The *dwípas*, or climates of the *Hindus*, gradually increase in breadth, from the equator to the polar circle, from a whimsical notion that they are all equal, as to the superficial contents. The seven zones of the *Hindus* correspond with the following countries: *Jambu* is *India*, *Cus'a* answers to the countries between the *Persian* gulf, the *Caspian* sea, and the Western boundary of *India*. *Placsha* includes the lesser *Asia*, *Armenia*, &c. *'Salmali* is bounded to the West by the *Cronian* seas; that is to say, the *Adriatic* and *Baltic* seas. *Crauncha* includes *Germany*; *'Sacam*, the *British* isles; and *Pushcara* is *Iceland*.

The *Pauránics*, however, consider these seven zones in a very different light, and the text of the *Purán'as* is equally applicable to their scheme. By *Méru* they understand, in general, the North pole,

but the context of the *Purán'as* is against this supposition. In these sacred books, *Méru* is considered solely as a point to the North of *India*, from which four large rivers issue, and flow toward the four cardinal points of the world: and we frequently read of countries and places said to be to the North of *Méru*, others are declared to be West, East, South, and North-west from it. This surely can have no reference whatever to the North pole, where the denominations of North, East, and West vanish.

This *Méru* will appear in the sequel of this work, to be to the North of *India*, on the elevated plains of *Tartary*, and in the latitude of forty-five degrees. This point is considered in the *Purán'as*, as the center of the world as known to the *Hindus*: there is its zenith or *Méru*, which is as applicable to a line passing through the centre, zenith, and nadir of a place, as to that passing through the poles. In whatever light we consider *Méru*, it is always the centre of the world, as delineated by the *Paurán'ics*. COSMAS, surnamed INDOPLEUSTES, from his travels into *India*, in the sixth century, says, that in his time the *Bráhmens* asserted that, if a line was drawn from *China* to *Greece*, it would pass through the centre of the world, or through this *Méru*. The *Paurán'ics* and astronomers in *India*, had not then attempted to disfigure their cosmographical system: and did not, at that period, consider *Méru* as the North pole. Round this point they draw seven zones, and the context of the *Purán'as* is as favourable to this supposition, as to the former, because these zones equally pass through the above islands. These zones have introduced much confusion, and entirely disfigured their geographical system. They are by no means countenanced in the body of the *Purán'as*; being

only introduced in a section of some of them called *Bhú-c'han'da*, or section of the Earth, which seems to be interpolated, and of a more recent date.

The *Hindus*, and the followers of BUDD'HA, differ considerably about the shape, and situation of the zones. The *Pauránics* say, that they are so many concentric circles enclosing *Jambu*, and situated between it and the land which bounds the Universe, and the first climate is that of *Méru*, included in the *dwípa* of *Jambu*: among the *Greeks* and *Romans*, the first climate was that of *Meroë*. Astronomers having discovered that the Earth is of a globular form, have placed them within the Southern hemisphere, which they fill up entirely. The *Baudd'hists* of *Tibet* represent these zones as so many concentric squares between *Jambu* or *India*, and mount *Méru*. The followers of BUDD'HA in *Ceylon* consider them as so many circles, but place them also between *Jambu* and *Méru*, considered as the North pole. The *Jainas* in *India* have, in great measure adopted the *Hindu* system: but reckon eight *dwípas*. *Dwípa-át'ha-maï haï Jágá sára*, the whole world consists of eight *dwípas*, says the author of the *Trailocya-darpan'a*. Though the followers of BUDD'HA seem to reckon seven *dwípas*, like the *Hindus*, they really reckon eight; for *Méru* is not included among the seven: they say the seven ranges of mountains, or zones round *Méru*: but the *Pauránics* consider *Méru* and *Jambu* as one of their seven *dwípas*. Seven is a favourite and fortunate number among the *Hindus*: eight among the *Baudd'hists*; and nine formerly in the West, and in the North of *Asia*. Between these zones, there are seven seas, or rivers only, according to some of the followers of BUDD'HA, and some *Hindus* also. There are even some, who consider these oceans, or rivers, either as one, or only as so many

branches springing from one head, and winding seven times round *Méru*, according to the *Pauránics*, or, eight times, according to the *Baudd'hists*: but according to SERVIUS, the *Styx* went nine times round the Earth. They reckoned, accordingly, nine seas and nine *dwípas*, or worlds. These nine worlds are noticed in the *Edda-Sæmudr*, and the nine oceans are mentioned by PLUTARCH, who informs us that a certain *Timarchus* visited the oracle of TROPHONIUS, where, in a vision, he saw the islands of the departed in the eighth part, or division of the ocean. These islands, according to the *Hindus*, and the followers of JINA, are constantly placed in the last sea but one: thus they are in the sixth, according to the *Hindus*: in the seventh, according to the *Jainas*: but the Western mythologists placed them in the eighth, because they reckoned nine seas. Nine was held a mystical and sacred number in the Northern parts of the old continent, from *China* to the extremities of the West. The *Cimbri* observed the ninth day, month, and year, sacrificing ninety-nine men, as many horses, &c. The number seven was held to be sacred by the *Hebrews*, and also by *Musulmans* to this day, who reckon seven climates, seven seas, seven heavens, and as many hells. According to *Rabbis* and *Musulman* authors, the body of ADAM was made of seven handfuls of mould taken from the seven stages of the Earth: and, indeed, the seven zones, or ranges of mountains, are arranged by the *Hindus* like so many steps, rising gradually one above another, in such manner that *Méru* looks like an immense pillar or obelisk with a case, either circular or square, and consisting of seven steps, but, according to others, of eight, or even nine. The length, or height, of this obelisk is to its breadth, as 84 to 16. The *Hindus* generally represent mount *Méru* of a conical figure, and kings

were formerly fond of raising mounds of earth in that shape, which they venerated like the divine *Méru*, and the Gods were called down by spells to come and dally upon them. They are called *Méru-s'ringas*, or the peaks of *Méru*. There are four of them either in, or near *Benares:* the more modern, and, of course, the most perfect, is at a place called *Sár-nát'h*. It was raised by the son of an Emperor of *Gaur*, in *Bengal*, with his brother, in the year of VICRAMA'DITYA, 1083, answering to the year of CHRIST, 1027, as mentioned in an inscription lately found there. This emperor had, it seems, annexed *Benares* to his dominions, for he is reckoned as one of the kings of *Benares*, under the name of BUDD'HA-SENA. This conical hill is about sixty feet high, with a small but handsome octagonal temple on the summit. It is said, in the inscription, that this artificial hill was intended as a representation of the worldly *Méru*, the hill of GOD, and the tower of *Babel*, with its seven steps, or zones, was probably raised with a similar view, and for the same purpose.

I observed before, that the *Hindus* place *Jambu* within these seven inclosures, while the heterodox *Baudd'hists* insist that it is without, and that these seven ranges of mountains or *dwípas*, pass between it and *Méru*. As these zones, ranges, and inclosures are impossible, and, of course, never existed, they are to be rejected: but the countries, and islands, after which they were denominated, and through which they are supposed to pass, probably existed with their surrounding seas. The *Nubian* geographer is the only author, I believe, who has connected the seven climates with as many seas, or rather bays, and gulfs, as he calls them.

IV. The first, or *dwípa* of *Jambu*, commonly called *India*, was formerly an island, as it appears

from the inspection of the country. The *British* provinces along the *Ganges* from *Hari-dwár*, down to the mouth of that river, was formerly an arm of the sea: and, in the same manner, toward the West, another arm of the sea extended from the mouth of the *Indus* to *Hari-dwár*, and there met the other from the East. A delineation of the Northern shores of *India* could not be attended with much difficulty, as they are, in general, sufficiently obvious. The sea coast may be traced from the *Neelgur* mountains to *Rájamáhl*, where it turns suddenly to the West. There the shore is bold, and rises abruptly, forming a promontory, consisting chiefly of large rounded stones, irregularly heaped together, but these irregular heaps may be only the ruins of more regular *strata* in the mountain. These stones are, in general, of an oval, yet irregular shape, about two feet long, sometimes three. Their superior and inferior surfaces are somewhat flattened, and, in some instances, I thought I perceived, that one was concave and the other convex. I found, also, there some *Volcanic nuclei* above one foot and a half in diameter: in one that was broken the interior coats were very obvious: the outward surface was remarkable for numerous cracks and fissures, some very deep, and all forming together a variety of irregular figures. This I found at the foot of the hill, near the *Sácri-gully* pass; unfortunately, I am not sufficiently acquainted with Natural History to enter upon such a subject; and I shall conclude with observing, that I conceive the cascade of *Muti-jirná*, near this place, to be the remains of the crater of a Vulcano. This I mentioned with a view to engage the attention of persons better qualified than I am, for such enquiries *.

* In consequence of this, Mr. SAMUEL DAVIS, some time ago, requested a *German* gentleman, well skilled in Natural His-

From *Rájamáhl*, the shore trends towards the West, forming several head-lands; the principal of which are *Mongheir*, and *Chunar*. From thence it goes all along the banks of the *Jumná* to *Agra*, and to *Delhi*, where it ends, forming two small rocky eminences; and then turns suddenly to the South West; and forming an irregular semi-circle, it trends towards the *Indus*, which it joins near *Backar*, at the distance of about four coss from that place, and one from *Lohri*, or *Rohri*, where, suddenly turning to the South, it goes towards *Ranípoor*, sixteen coss from *Rohri*, and four from *Gunmot* on the *Indus*. This account is from Captain FALVEY, who visited that country about the year 1787. From *Delhi* to *Backar*, in a direct line, there are no mountains, for the hills remain to the South of this line, forming an immense curve. Thus, from the mouth of the *Indus* to that of the *Ganges*, round *Delhi*, it is an immense flat and level country. The beach of the shores to the North, at the foot of the snowy mountains, and to the South, round the island of *India*, in ancient times, is covered with pebbles, some of the most beautiful I ever saw. But the greatest part of them are not real pebbles; they are only fragments of stones, marble, and agate, rounded and polished by mutual attrition, produced by the agitation of the waves. It seems as if the waters, which once filled up the *Gangetic* provinces, had been suddenly turned into earth: for the shores, the rocks, and islands, rise abruptly from the level; and are every where well defined, and strongly marked; except where the

---

tory, and who was going upon the *Ganges*, for the benefit of his health, to stay at *Rájamáhl*, and ascertain, whether these were the remains of a *Vulcano* or not. That gentleman, whose name I do not recollect now, having maturely examined every particular appearance about *Muti-jirná* and *Rájamáhl*, wrote a short essay, in which he proves these appearances to be *Vulcanic*, and the cascade to be the undubitable remains of the *crater* of a *Vulcano*.

surface of the adjacent level has been disturbed by the incroachments of rivers, and torrents from the hills in the rains, or by the industry of man. This I noticed particularly about *Birbhoom*, and to the South-east of *Chunar*. What we call the hills in this country, and which appear such, from the immense plains below, are, in reality, the table-land of old *India*. In the *Gangetic* provinces no native earth is to be found, and the soil consists of various *strata* of different sorts of earths, in the greatest confusion, the lightest being often found below the heaviest. The deepest excavation, that ever came to my knowledge, was made, some years ago, near *Benares*, at a place called *Comowly*, within a furlong, I believe, of the *Ganges*, by some gentlemen who were erecting some indigo works. They pierced through an amazing thick *stratum* of stiff earth, without obtaining water. They found then several beds of mould and sand, remarkably thin; then at the depth of about ninety-five feet, they arrived at an old bed of the *Ganges*, which consisted of a deep *stratum* of river sand, with bones of men and quadrupeds. They were supposed to be petrefactions, from their extraordinary weight, though they preserved their original texture. The human bones were entire, but those of quadrupeds were broken, and bore evident marks of their having been cut with a sharp instrument. This bed was exactly thirty feet below the present bed of the *Ganges*. Below this *stratum* of sand they found another of clay; and below it, some mould: then, at the depth of about one hundred and five feet, they found a bed of fine white sand, such as is found on the sea shore. Under this they found a bed of the same clay and earth as there was above: and they were relieved from their labours, by a copious stream of fresh water. The sight of the sea sand gave me some hope of finding some marine productions, but I was disappointed: which shews

that this bed of sand was merely adventitious, and had been brought down by the river from the shores to the lower parts of its bed; and that the old bottom of the sea was considerably below. The same appearances, with human bones, have been found lately at different places, in digging wells near the *Ganges*, and generally at the same depth nearly.

To ascertain the quantity of the declivity, both of the country and of the bed of the *Ganges*, would be useful and entertaining: but I have nothing but conjectures to offer on this subject. When we consider the numerous windings of this river, we may safely conclude, that the declivity cannot be considerable. It is greater from *Hurdwár* to *Allahabad*, and through the country of *Oude*, than any where else. From *Allahabad* to *Sácri-gully*, it appears to be trifling; but from the head of the *Delta*, where the banks are generally about thirty feet above the surface of the waters of the river, when at their lowest period, the declivity is uniform down to the sea (where the land is nearly on a level with it), for a space of two hundred and thirty miles: I have often observed, between *Allahabad* and *Rájamáhl*, that there was no sensible declivity in the surface of the waters of the river, when at their lowest period, for ten miles, in some places fifteen, and even twenty in others. For since there was no sensible current in the river, when the winds were silent, there could be no declivity. Besides, the river *Cosa*, which fell into the *Ganges* formerly opposite *Rájamáhl*, has altered its course, and joins this river twenty-five miles higher up, which is the distance between *Nabob-gunge* and its present mouth. If the declivity was very considerable, this could not have happened. In the Western parts of the *Gangetic* provinces there are two de-

clivities, one from the North and the other from the West, in consequence of which the rivers flow in a compound direction toward the South-east. But as you advance toward the East, the declivity from the West toward the East decreases gradually, and of course the rivers incline more and more toward the South, till the declivity from the West, disappearing entirely, they run directly South into the *Ganges*. The rivers in *Bahar*, to the South of the *Ganges*, run also directly North into the *Ganges*.

This inland-sea being narrower at the bottom, near *Hardwár*, was of course sooner filled up; and the table land of old *India*, about *Delhi*, is very little above the level of the country. In the time of BHAGIRAT'HA, the *Gangetic* provinces are represented as uninhabitable, except in the upper parts of the country, where SATYAVRATTA, or NOAH, is said to have generally resided. BHAGIRAT'HA went to *Hardwár*, and obtained the *Ganges*, led *her* to the ocean, tracing, with the wheels of his chariot, two furrows, which were to be the limits of *her* incroachments. The distance between them is said by some to be four coss, and according to others four *Yojanas*; and the *Ganges* has never been known, it is said, to transgress on either side. This legend is of great antiquity, as it is mentioned by PHILOSTRATUS in his life of APOLLONIUS. The *Ganges*, says he, once nearly overflowed all *India* (the *Gangetic* provinces); but his son directed its course towards the sea, and thus rendered it highly beneficial to the country. Thus we read in the history of *China*, that the *Hoangho* formerly caused great devastations all over the country: but the emperor YU went in search of its source, from whence he directed its course to the sea. HERCULES, at the command of OSIRIS, brought the *Nile* from *Ethiopia*; this *Christians*

and *Musulmans* formerly attributed to Enoch, or Idris. Bhagirat'ha thus brought the *Ganges* to a place on the shores of the ocean, called *Gangá-Ságara*, where it was made to discharge its waters through seven channels; but, according to others, through one hundred. The first number is mentioned by Mela, and the other by Apuleius.

> Eois regnator aquis in flumina *centum*,
> Discurrit, *centum* valles illi, oraque *centum*,
> Oceanique fretis *centeno* jungitur amni.

"This king of the Eastern wave runs into a *hundred* streams; with a *hundred* mouths, through a *hundred* channels, like so many vallies; and joins the ocean through a *hundredfold* stream."

The *Ganges*, advancing toward the ocean, was frightened, and fled back through one *hundred* channels, according to the *Pauránics*; and through this exercise *she* goes twice every day.

This happened at a place called *Purán'a-Ságara*, or old *Ságara*; for the new *Ságara* is in the island of that name near the sea, and the old one is near *Fulta*, close to a place called *Mun'da-gach'ha*, or *Moragatcha*, in Major Rennel's Atlas. There is an insignificant stream very often dry, which is the true *Ganges*, which divides its waters into seven small rivulets, some of which are delineated in the *Bengal* Atlas: from this circumstance, the *Ganges* is called *S'át-muc'hi-Gangá* in the spoken dialects, or with seven mouths. When she is called *S'áta-muc'hi*, or with one *hundred* mouths, this implies her numerous channels, through the *Sunderbunds*. The old *Ságara*, probably the *Oceanis* of Diodorus the *Sicilian*, is now about fifty miles from the Southern extremity of *Ságar* island; and

this distance shews the encroachment of the land upon the sea, since the days of BHAGIRAT'HA, who lived above two thousand years before CHRIST, according to the genealogical scale prefixed to my essay on the chronology of the *Hindus*. The new *Ságara* was originally on the sea shore, but it is now five or six miles from it, toward the East, and many more toward the North. It is to be wished, that the era of its foundation could be ascertained, as it would enable us to form some idea of the gradual progress of the encroachments of the *Delta* upon the sea.

There can be no doubt, but that the factitious soil of the *Gangetic* provinces, and of the *Panjáb*, has been brought down by the alluvions of rivers from the countries to the North of *India*. The quantity of earth thus brought down must have been very considerable at a very early period; but it is very trifling at present, for these alluvions have left nothing but the bare rocks, with such parcels of ground as were out of their reach, from their being supported and protected by stony ramparts. The country between the ranges to the North of *India* is a table-land, and forms, as it were, so many steps, as mentioned in the *Trailócya-derpan'a*, and by the *Pauránics*. This circumstance was ascertained by Mr. SAMUEL DAVIS, who went as far as the first range. This was also confirmed to me by natives, with respect to other parts of the country, as far as *Cashmir*. On these table-lands are also various peaks and mountains; and the beds of the rivers look like so many ravines of an enormous size.

V. By the *dwípa* of *Jambu*, the *Pauránics* understand, in general, the old continent, but the followers of BUDD'HA, in *Tibet*, *Ava*, and *Ceylon*,

understand *India;* and many passages from the *Purán'as,* prove that it was originally understood of *India* only.

The *dwípa* of *Jambu,* or *India,* is called also *Can'yá-dwípa,* or the island of the virgin or damsel, daughter of king BHARATA, the fifth from SWAYAMBHUVA, or ADAM. Her name was ILA', or the Earth: this was also the name of the daughter of SATYAV'RATA, or PR'ITHU; for though the Earth was his wife, she became also his daughter. The sea surrounding *Jambu,* is called the *Lavana-samudra,* or salt sea. It would have been highly imprudent for the *Paurán'ics* to have placed there seas, either of milk or honey.

The second *dwípa,* is that of *Cus'a,* thus called either from a sage of that name, or from the grass *Cus'a,* or *Poa,* supposed to grow there plentifully. It includes all the countries from the *Indus* to the *Persian* gulf, and the *Caspian* sea, which probably the *Paurán'ics* made the limits of that country, or *dwípa,* and afterwards supposed to form a watery belt round the zone of *Cus'a,* under the name of sea of *Surá* or *Irá,* or sea of intoxicating liquors. The origin of this denomination may possibly have some affinity with *Iran,* and the *Sur* or *Assur* of scripture. It is probable that *Sur* and *Assur* were once considered as synonymous; if not, then *Sur,* or *Syria,* certainly extended once from the shores of the *Mediterranean* sea to the gulf of *Persia,* and even included the greatest part, if not the whole, of *Arabia.* The *dwípa* of *Cus'a* is the land of *Cush* of scripture, at least, part of it. *Cu-s'ha* should be pronounced nearly like *Cusha,* but not quite so forcibly, like the two *ss* in the *English* word *cession.* The third *dwípa* is *Placsha,* or the country abounding with fig-trees. It is called

Palangshu by the mythologists of *Bootan*, and included the lesser *Asia*, *Armenia*, &c. The name still remains in *Placia*, a town in *Mysia*, the inhabitants of which, with those of *Scylace*, had a peculiar language, which was the same with that spoken by the *Pelasgi* of *Crestone*, or *Crotone*, above the *Tyrrhenians*, in *Italy*; and by the *Pelasgi*, who lived on the shores of the *Hellespont*, according to HERODOTUS. Thus the denomination of *Placshu*, or *Palangshu*, seems to be the same with *Placia*, and *Pelasgia*; and the *Pelasgi* came originally from the lesser *Asia*. It is bounded by the sea of *Icshu*, or juice of the sugar-cane, and which seems to be the *Euxine* sea: but this will be the subject of a separate article, when it will appear, that the *Pauránics* have confounded the *Ask*, or *Ash-tree*, with the *Icshu* or sugar-cane, as this tree produces also a sweet juice, famous in the *Edda*, and called, when boiled, *asky*, by the old *Scythians* (according to HERODOTUS, who has, however, strangely misrepresented the tree from which this sweet juice was procured,) and which was afterwards boiled into a hard substance, like that of the sugar-cane, which is called *gur* in *India*. Hence the *Icshu* sea, is called also in the *Puránas*, the sea of *Gúda* in *Sanscrit*, and pronounced *gur* in the spoken dialects.

The fourth *dwípa* is *S'álmali*, *S'álmala*, or *S'álmalica*, or the country of the willow *, and of the lord of the willow *S'álmales'wara*, *S'álmalices'a*, the same with *Zamolxis*, called also, more properly, *Salmolxis* and *Zalmolxis*. It extended from the *Euxine* to the shores of the *Baltic* and *Adriatic* seas.

* The word *S'álmala* is generally understood to signify *Bombax*; but it signifies also such trees as produce cotton unfit for spinning; and I shall shew, when I come to treat of *S'álmala-dwípa*, that it is to be understood there of the willow.

It is surrounded by the sea called *Sarpi*, *Prĭta*, or clarified butter.

The fifth *dwípa* is called *Crauncha*, and *Craun'da*, which included *Germany*, *France*, and the Northern parts of *Italy*. *Craunchа* is the same with CRONUS, confounded with SATURN by Western mythologists; and the *Baltic* and *Adriatic* seas were, probably, called *Cronan*, from the *dwípa* of *Craunca*. It is surrounded by the *Dad'hi-Ságara*, or sea of curds.

The sixth *dwípa* is called *Sáca*, and *Sácum*, and includes the *British* isles. It is surrounded by the sea of milk, or the white sea; *Cshírábd'hi* and *Dugd'hábd'hi*, *Cshíra-Ságara*, or *Cshíra-Samudra*, *Cshíra-Salila*, *Cshíranid'hi*, *Cshírárn'ava*. It is called also *Amrĭtábd'hi*, or sea of *Amrĭta*, synonymous with *Amalaci*, from which they made *Amalchium* in the West. It is called, also, *Somas'ailábd'hi*, or the sea of the mountain of the moon.

The seventh *dwípa* is *Pushcara* or *Ice-land*, surrounded by the *Swáduda*, *Swádudaca*, *Swádujala*, *Payod'hi*, *Toyabd'hi*, or the sea of fresh water: for it was, also, the opinion of the ancients, that the furthermost ocean was of fresh water: *Scythicus Oceanus dulcis est*, says PLINY.

The Western ocean is, in general, called *Mahodábd'hi* and *Mahárn'ava*, or the great sea; and in the *Revac'han'da*, the *Cshira-Samudra* is said to come down as low as the parallel of *Himaván*, or the snowy mountains, or about thirty degrees of latitude North. CALANUS seems to allude to these wonderful seas, when he said to ALEXANDER'S messenger, that formerly there were springs of water, others of milk, honey, wine, and oil; but

1

that in the present wicked age and degenerated times, they had disappeared. This is also the opinion of many divines in *India*, who believe, that in *Calí-yuga* these seas have disappeared, or are turned salt, and bitter, and also, that the white island, is become black, on account of the sins of mankind. ONESICRITUS, to whom CALENUS was speaking, was probably unwilling to give credit to these seas of milk, wine, and honey, but could have no great objection to springs only of the same. One of the seven seas is called *Cshaúdra-Ságara*, or sea of honey, I believe, in the *Sidd'hanta-S'iromen'i*. There is another division of the world into seven *dwípas*, more complete than the preceding, but its origin is not mentioned. Their names are, *Jambu*, in the center; to the West, reckoning from North to South, are the *dwípas* of *Varáha Cus'a* and *'Sanc'ha*; to the East, reckoning from South to North, *Yamala*, or *Malaya*, *Yama*, and *Anga*. The *dwípas* of *Cus'a* and *Yama*, are acknowledged to be East and West with respect to *India*. *Jambu* here appears again in a different light. It includes *India*, the elevated plains of *Tartary*, and mount *Méru*,, and extends towards the West to the *Caspian* sea and the *Persian* gulf. The followers of JINA, in *India*, represent *Jambu* nearly in the same light, except that they make it larger, and seem to extend it as far as the shores of the *Euxine* and *Mediterranean* seas. *Varáha dwípa* being situated in the North West quarter of the old Continent, is *Europe*, as will appear more fully in the course of this work. The *dwípa* of *Cus'a*, according to this new division, includes the lesser *Asia*, *Armenia*, *Syria*, and *Arabia*. There seems also to be a third *dwípa* of *Cus'a* near the equator, which includes *Ethiopia*, &c. The *Pauránics* account plausibly for these three different situations assigned to *Cus'a*, by supposing it owing to the

successive emigrations of the original inhabitants of that country; and the first and second *Cus'a* they consider but as one and the same.

The third *dwípa* is that of *S'anc'ha*, or *Africa*, of which they know but little, and nothing beyond *Ethiopia*, or rather *Abyssinia* and *Egypt*, with the Eastern shores. It retains, in great measure, its *Sanscrit* name; an extensive part of that coast being called *Lengh*, and *Lengh-bhar*, to this day. But PTOLEMY extends it as far as cape *Gardafui*, to the South of which he places another cape, called *Lingis*, or *Singis extrema*. The denomination of *S'anc'ha* is obvious also in the names of *Singis*, *Lenghistan*, and perhaps *Lengitana*, *Langiro*, *Lanhaga*, *Lenighi*, and even perhaps *Senegal*, from the *Sanscrit Sanc'hala*, in a derivative form; and the *Troglodytes* are called to this day *Shangalas*.

S'anc'ha-dwípa signifies the island of shells, and the natives, according to STRABO, used to wear large collars of them; but, according to the *Paurán'ics*, the inhabitants used to live in shells: probably in caverns, hollowed like shells, or compared to shells. The famous demon S'A'NC'HASURA, lived in a shell. When CRISHNA killed him, he took the shell in which he lived, and which is now become one of VISHNU's *insignia*. This strange idea was not unknown to the *Greeks*, who represent young NERITES, who is one of the CUPIDS, as living in shells, on the shores of the *Red* sea. *Sánc'ha-dwípa* is then synonymous with *Troglodytica* of the ancients. The *Troglodytes*, or inhabitants of *Caves*, are called in scripture *Sukim*, because they dwelt in *Sucas*, or *dens*; but it is probable, that the word *Suca*, which means a *den* only in a secondary sense, and signifies also an arbour, a booth, or a tent, was originally taken in the

sense of a *cave*, from *S'anc'ha*, and afterwards used to imply any fabric to dwell in. Thus the word *den* is obviously derived from the *Sanscrit d'háni*, or *den*, in the language of TIBET, in which it signifies any place, house, or even country to live in. The *Sukim*, or *Sukkiim*, were a powerful nation in the time of REHOBOAM, for they accompanied SHISHAC in his expedition against *Jerusalem;* and we find their descendants, in the third century of the *Hejira*, crossing *Arabia*, and invading *Irak-Arabi*, or the country about *Babylon*, under their king SAHEB-AL-ZENG, or the lord of *Zeng*, who appears as a successor of the famous SANC'HA-MUC'HA-NA'GA, a giant in the shape of a snake, with a mouth like a shell, and whose abode was in a shell; and who had, as usual, two countenances, that of a man, and another of a snake. He was killed by CRÍSHNA; but his descendants and subjects, in similar shapes, still remain there. He is called also PA'NCHA-JANYA. The breath of the SANC'HA-NA'GA is believed, by the *Hindus*, to be a fiery poisonous wind, which burns and destroys animals and vegetables, to the distance of a hundred *Yojanas* round the place of his residence: and by this hypothesis they account for the dreadful effects of the *Sámum*, or hot envenomed wind, which blows from the mountains of *Hubab*, through the whole extent of the desert. The sage AGASTYA, who is supposed to live in the South West, or *Abyssinia*, put an end to this evil, and even reduced the serpent so much as to carry him about in an earthen vessel. This legend is current in the Western parts of *India*, but, how far it is countenanced in the *Purán'as*, I cannot say. The *Hindus*, in the Western parts of *India*, are remarkably well acquainted with the superstitious monuments, rites, and legends of the *Musulmans* in *Arabia* and *Egypt*, such as the serpent *Heredi*, the black stone in the *Caaba*,

the two pigeons destroyed by MOHAMMED, and the impression of a foot on a stone there. These, plausibly enough, they claim as their own property, and have traditionary legends, purporting to be grounded on the *Pauránas,* though, perhaps, not expressly found there. They say, there was formerly a great intercourse between them and *Egypt*, *Abyssinia*, and *Arabia*, where there are *Hindus* and *Bráhmens*, even to this day, as well as all over *Persia*, and even in *Georgia*. *Fackeers* occasionally go there; and certain it is, that the famous URD'HA-BA'HU, who travelled to *Moscow*, and died lately at *Benares*, attempted to go to *Egypt*, but he went no further than *El-Catif* and *Baharein*, on the Western shores of the *Persian* gulf, being deterred from going further. I have made mention of him in my essay on SAMI-RAMIS, called SAMI'-DE'VI' by the *Hindus*. PTOLEMY saw many *Hindus* at *Alexandria*, and they used to visit the temple of MAHA'-BHA'GA'-DEVI', at *Bambyke*, or *Mabog*, in *Syria*, according to LUCIAN, as cited by the authors of the ancient universal history.

The mountains in which S'ANC'HA'SURA lived, are called to this day *Hubab* in *Arabic*, or the mountains of the serpent; and the people of these mountains have, according to the *Abyssinian* traveller, legendary traditions of a snake, who formerly reigned over them, and conquered the kingdom of *Siré*. They are famous, with their serpentine tribes, in Oriental tales; and in the *Arabian* Nights, we read of the miraculous escape of SINBAD from the devouring mouth of that dreadful race, who lived in caves among the mountains. Near that country he was exposed to many dangers from the birds called *Rocks*, or *Simorgs*, the *Garúdas* of the *Pauránics*, whom *Persian* roman-

cers represent as living in *Madagascar*, according to MARCO POLO. The serpent *'Sanc'ha-Nagá* is now called *Heredi* in *Egypt*. The *Musulmans* insist, that it is a *Shaikh* of that name, transformed into a snake; the *Christians* that it is *Asmodeus*, mentioned in the book of *Tobit*, the *Ashmugh-div* of the *Persians*. There, in the *dwípa* of *S'anc'ha*, is the capital city of *Naisrĭt*, or *Palli*, called *Crĭshnánganá*, being situated on the river *Crĭshna*, or *Crĭshnánganá*, that is, with a black body in a human shape; for rivers have two countenances. NAIRRĬT had a famous elephant called *Cumuda*, with the title of *Nairrĭtyádigaja*, or the elephant of the South West quarter, or *Nairrĭt*. Wonderful stories are related of him; and there is no doubt but some of them are mentioned in the *Purán'as*, or some other books; but I could not find them. This famous elephant is, however, mentioned in Lexicons, and lived in *S'anc'ha-dwípa*, with his tribe of giants in the shape of elephants, or rather with two countenances. The names of several rivers in that country are pure *Sanscrit*, and obviously allude to the ancient inhabitants, in the shape of elephants, living and sporting on their banks. Thus the *Aistamenos* is from *Hastimán*, or *Hasti-mati*, full of elephants. The *Mareb* was called *Astosalas*, from *Hasti-sabhá*, because their chief held his court there. *Astaboras*, or *Astabaras*, was also the name of another river there, from *Hasti-vara*, or *Hasti-bára*, the country along its banks being full of elephants, whose abode it was.

There the unfortunate SINBAD, according to the author of the *Arabian* Nights, was once more in the most imminent danger amongst this Elephantine tribe, on his return from *Seren-dip*, or rather *Serandah*, or *Madagascar*, called also *Raneh*, and in the *Purán'as*, *Harin'a*.

In my essay on *Egypt*, I mentioned the unfortunate affray between the son of CUSSID, and some of these elephants, in consequence of which he became a *Caunapas*, or like a dead corpse. I cannot ascertain whether the whole legend be genuine or not: certain it is, that in Lexicons the *Carenapás* are mentioned as belonging to the train and retinue of NAIRRĬT, or PALLI, and of course they lived either in *Ethiopia* or in *Egypt*.

The *dwípa* of *S'anc'ha* is supposed, by the *Pauránics*, to join the island of *Sumatra*, or of the Moon. This mistaken notion has been adopted by PTOLEMY, and after him by Oriental writers. In the beginning of the *Brahmán'da-purán'a, Lancá*, or the peninsula of *Malaya*, and *Sumatra* join the island of *S'anc'ha*, or *Zengh. Samást'hitam, adhering to*, is a participial form, answering to *con-stitum* in *Latin*, and *sun-istamai* in *Greek*. This is understood of the island of *Mandara*, or *Sumatra*; for it is positively declared, that *Mahá Lancá*, or *Málacá*, and *Sumatra*, are separated by a strait called *Lancá-dwára*, or the gates of *Lancá*. PTOLEMY, however, supposed it was the peninsula of *Málacá* that was thus joined to *Africa*; and, for this purpose, makes the shores take a most circuitous turn. EL EDRISSI asserts equally, that the isle of *Malai* joins, toward the West, to the country of *Zengh*. The inland, or *Mediterranean* sea, is called *Yámodadh'é*, or the sea of *Yama*; and by PTOLEMY *Hippados*, perhaps from the *Sanscrit Upábd'hi*, which would imply a subordinate or inferior sea. This expression would be perfectly grammatical, but I do not recollect that it is ever used. *Hippados* may also be derived simply from *Abd'hi*, pronounced *Apd'hi*, or the sea. The tract of islands called *Raneh* by *Arabian* writers, and including *Madagascar* and the surrounding islands, is obviously

the *dwípa* of *Harin'a,* mentioned in the *Bhágavata,* along with *S'anc'ha,* in the South-West quarter of the old continent. This island being also called in *Arabic,* the isle of the Moon, has occasioned some confusion. Doctor VINCENT has thrown much light on this subject, in his learned and elaborate treatise on the *Periplus* of the *Erythræan* sea; by which it appears, that the notions of the *Arabs,* relating to these seas, are more conformable to the *Purán'as* than PTOLEMY's description. The three *dwípas* to the Eastward, are *Yamala,* or *Malaya,* now the peninsula of *Málacá,* and the adjacent islands; as for the *dwípa* of *Yama,* its situation is rather obscure; the third is *Anga-dwípa,* in the North-East, by which they understand *China.* There is very little about it in the *Purán'as;* and, with regard to the *dwípas* of *Yama* and *Malaya,* they will be the subject of a particular paragraph.

VI. There is another division of the old continent, extracted chiefly from the *Bhágávata,* the *Bramán'dá,* and *Brahmá-Puranas,* which represent the world under the emblem of a *Nymphæa,* or *Lotos,* floating on the ocean. There the whole plant signifies both the Earth and the two principles of its fecundation. The stalk originates from the navel of VISHNU, sleeping at the bottom of the ocean; and the flower is described as the cradle of BRAHMA', or mankind. The germ is both *Méru* and the *Linga:* the petals and filaments are the mountains which encircle *Meru,* and are also the type of the *Yoni;* the four leaves of the *calyx* are the four vast *dwípas,* or countries, toward the four cardinal points. Eight external leaves, placed two by two, in the intervals, are eight subordinate *dwípas* or countries.

The four great countries, or *Maha-dwipas*, are *Uttara-curu* to the North, *Bhadras'va* to the East, *Jambu* to the South, and *Cetumala* to the West. In the intermediate spaces, in the North-West, are *Swarna-prast'ha*, or *Ireland*, and *Chan'dra-s'ucla-Avarttana*, or *Britain*. In the North-East are *Ramanaca* and *Mandara*; these are unknown, and have been placed there probably for the sake of symmetry. In the South-East, *Lancá*, the peninsula of *Málaca*, *Sinhála*, or *Ceylon*: in the South-West there is *Harin'a*, the *Raneh* of *Arabian* authors, now *Madagascar*; and *Páncha-janya*, or *Sanc'ha*; as may be seen in the accompanying delineation of the worldly *Lotos*.

The usual division of the known world is into nine *c'han'das*, or portions, exactly of the same size, as to superficial contents, but of very different figures and dimensions. In the center of the old continent, on the highest and most elevated spot, is the division called *Ilávrattá*, or the circle of *Ila*: to the East is *Bhadrásva*, and to the West *Cetumála*, or simply *Cetu*. Toward the South are three ranges of mountains, and as many to the North; between them are four divisions, two between the three ranges in the South, and as many between those in the North. The names of the ranges, to the South of *Ilávratta*, are *Himáchala*, *Himádrá*, or the snowy mountain: to the North of this range is the second, called *Hema-cút'a*, from its golden peaks; the country, or division, between them, is called *Cimpu-rusha*, or *Cinnara-c'han'da*. The third range is called *Nishad'ha*; and the country between this and *Hema-cut'a*, is called *Harivarsham*, or *Hari-c'handa*.

To the North of *Ilávratta* are the *Níla*, or blue mountains: to the North of this range is another,

called *'Sweta*, or the white mountains: the country between these two is called *Ramyaca:* the third and last range is called *'Srïnga-ván:* and the country between the two last, is *Hiran'yamaya*, or *Hiran'maya.* These six ranges extend from sea to sea, and are of different length, according to the latitudes they are in. The length of the two innermost ranges, and of course of the longest, is equal to the breadth of *Jambu-dwípa*, or 100,000 *Yojanas;* the length of the two middle ranges, *'Sweta* and *Hema-cút'a*, is 90 000 *Yojanas:* the two outermost, *Srïnga-ván* and *Himáchala*, are 80,000 *Yojanas* in length. These mountains are 2000 *Yojanas* broad, and as many high, or about 10,000 miles: we are informed, in the *Cálicá-purán'a*, that it was so formerly; but that since, the mountains have gradually subsided, and that the highest is not above one *Yojana* in height, or less than five miles.

According to the *Trai-locya-darpan'a*, these ranges do not extend from sea to sea, and occupy little more than the fourth part of the breadth of the old continent, which is, in that treatise, said to be equal to 60,000 *Yojanas.* The length of the two outermost ranges is declared to be 4202 *Yojanas;* the two middle ones 8416, and the two innermost 16,832. This is the more reasonable, as these three ranges, very plain and obvious in the North of *India*, are soon confused together, and disappear at some distance from it; and as 150,000 *Yojanas*, in the *Trai-locya-darpan'a*, are considered as equal to 180 degrees of longitude, the first range will extend East and West, about two and twenty degrees of longitude, which is the utmost breadth of *India.* The difference between the two other ranges, and the first, is disproportionate and inadmissible; and the proportion given in the *Purán'as*

of their respective lengths, is more natural, being in the ratios of ten, nine, and eight. In this manner the three ranges are, in a great measure, confined to the original *Jambu*, or *India*.

The country, to the South of the Southernmost range, is called *Bhárata*, and originally was confined to *India;* but it is also enlarged, along with *Jambu*, and is now made to extend from the shores of the Atlantic to those of the Eastern ocean.

In the same manner, the country beyond the Northernmost range, as far as the Frozen ocean, is called *Curu*, or *Airávata*, being the native country of the famous elephant of INDRA, called *Airávata*, and of his numerous tribe and descendants, whose *exuviæ*, or spoils, are to be found in vast quantities in the Northern parts of the old continent. These nine divisions are said to be perfectly equal in superficial contents, though of different shapes: and the only difficulty in delineating a general map of the world, is to divide the whole surface into nine equal parts, one of which, in the centre, is to be a perfect square, and out of the eight others, every two divisions are to have exactly the same figure and dimensions. The accompanying map of *Jambu*, which is very common, is supposed to be drawn on these principles; but whether it be very exact in that respect, I shall not determine, as I am by no means willing to go through the necessary calculations, which, after all, would prove of no use. In consequence of this arrangement, the first range, or the snowy mountains, lies under the parallel of fifty-two degrees of latitude; the second under that of 65° 48′; and *Nishad'ha* in 76°. *Méru* is here supposed to be the North pole. The three other ranges beyond *Méru* are exactly in the same latitudes,

reckoning from the opposite side of the equator, which circumscribes the Northern hemisphere. But *Méru* is not the North pole; it is true that it is the *Nava*, *Nobeh*, or under the ninetieth degree, not from the equator, but from the horizon; or, in other words, it is the zenith and centre of the known world, or old continent, not including the sea; and this centre, according to the *Pauránics*, in the time of Cosmas Indopleustes, in the middle of the sixth century, was said to be exactly between *China* and *Greece*. We read constantly in the *Puránas* of countries, mountains, and rivers, some to the North, others to the East, or to the West of *Méru;* the country of North *Curu*, beyond *Méru*, is repeatedly declared to be to the South of the Northern ocean. All these expressions shew very plainly, that by *Méru*, the *Pauránics* did not originally understand the North pole, which they call *Sidd'hapur*, which place, the astronomers say, cannot be under the North pole, because it is in the track of the sun; for when the sun is there, it is midnight at *Lancá* and in *India;* it must be then under the equator. This is very true; but we are to argue, in the present case, according to the received notions of the *Pauránics*, who formerly considered the Earth as a flat surface, with an immense convexity in the centre, behind which the sun disappeared gradually, descending so as to graze the surface of the sea at *Sidd'hapura*. In the *Brahmánda Purána* section of the *Bhuvana-Cosa*, it is declared, that one-half of the surface *(védi)* of the earth is on the South of *Méru*, and the other half on the North. All this is very plain, if we understand it of the old continent; one half of which is South of the elevated plains of little *Bokhára*, and the other half to the North of it. Then, twelve or fifteen lines lower, the author of the same *Purána* adds, and

these two countries, South and North of *Méru*, are in the shape of a bow; this is to be understood of their outermost limits or shores.

Another irrefragable proof, that by *Méru* we are to understand the elevated plains of little *Bokhára*, are the four great rivers issuing from it, and flowing toward the four cardinal points of the world; three of which are well known to the *Hindus*. These rivers are the *Ganges;* the *Sitá*, flowing toward the East, and now called the *Hara-Moren;* the *Bhadrá* to the North, and probably the *Jenisea* in *Siberia;* the fourth is the *Apara-Gan'dicá*, or Western *Gan'dicá*, called more generally *Chacshu*. It flows toward the West, and its present name, among the natives, toward its source, is *Cocsha*, and from the former is derived its *Greek* appellation of *Oxus*.

Thus the distance of *Méru* from the equator is reduced from ninety degrees to forty-five; the distance from the equator at *Lancá*, to *Sidd'ha-pura*, or the North pole, is reduced from one hundred and eighty to ninety degrees; and every distance from North to South, in the *Hindu* maps, must be reduced in the same proportion.

Thus the snowy mountains, to the North of *India*, and placed in the map in the latitude of fifty-two degrees, are brought down lower into twenty-six degrees, the half of fifty-two: and they really begin that latitude near *Assam;* but they are made, most erroneously, to run in a direction East and West. STRABO descants a great deal upon the direction of the mountains to the North of *India**, from *Hipparchus* and *Eratosthenes;* and concludes

* STRABO, lib. II, page 118 and 122.

by saying, that the obliquity of the direction of these ranges was to be retained in the maps, exactly as it was in the old ones. The whole reductions are thus exhibited in the following table:—

The North Pole, 90°		
	66°	parallel of 66° or Polar circle,
128°	64°	first range North of *Méru*,
114 2′	57 1	second ditto, ditto,
104	52	third ditto, ditto,
90	45	*Méru*,
76	38	third range, South of *Méru*,
65° 8′	32° 34′	second range ditto,
52	26	snowy mountains.

Instead of the numbers beyond *Méru*, their complement to ninety is to be used.

But as *Méru*, or the centrical point between the sources of the four great rivers, is not in the latitude of forty-five degrees, a further correction must take place. No precision can be expected here; but this centrical point cannot be carried further North than thirty-nine or forty degrees; and the three Northern ranges will fall in the following latitudes.

ME'RU in 40°, the *Níla* range in 47°, *Sweta* in 52°, and *Sringá-van* in 59°.

The summit of *Méru* is represented as a circular plain, of a vast extent, surrounded by an edge of hills. The whole is called *Ilávratta*, or the circle of *Ilá*, and considered as a celestial Earth, or *Swargabhúmí;* and it is thus called to this day, by the people of *Tibet*, the *Chinese*, and the *Tartars;* and, like the *Hindus*, they have it in the greatest veneration, worshipping its encircling mountains whenever they descry them. According to DE GUIGNES, the *Chinese* call them *Tien-c'han*, and

the *Tartars Kiloman*, or the celestial mountains. In *Tibet* they call them *Tangra*, or *Tangla*, according to F. Cassiano and Pura'n-gir; the latter accompanied the late Lama to *China*, and gave me an accurate journal of his march from *Tissoo-Lumbo* to *Siling*, or *Sining*. *Tingri*, in the language of the *Tartars* and *Moguls*, signifies the heavens; and even *Tibet* is called *Tibet-Tingri*, or the heavenly country of *Tibet*. The name of *Tien-c'han* is given by the *Chinese* to the mountains to the North of *Hima:* to the Southern part of the circle they give the name of *Sioue-c'han*, or snowy mountains. This range, says De Guignes, runs along the northern limits of *India*, toward *China*, encompassing a large space, enclosed, as it were, within a circle of mountains *. The Southern extremity of this circle is close, according to the present *Hindu* maps, to the last, or Northern range, called *Nishad'ha;* and this is actually the case with the mountains of *Tangrah*, near *Lassa*, which is in the interval between the second and third range. According to F. Cassiano, the mountains of *Tangrah* are seen from the summit of *Cambálá*, several days journey to the Westward of *Lassa*. The famous Pura'n-gir left them on the left, in his way from *Tissoo-Lumbo* to *China*, at the distance of about twelve coss, and did not fail to worship them. At the distance of seventy-seven coss from the last place, he reckoned *Lassa* to be about twenty coss to the right; twenty-three coss beyond that, he was near the mountains of *Ninjink Tangrá*, a portion of that immense circular ridge. In his progress toward the famous temple of *Ujuk*, or *Uzuk*, called *Souk* in the maps, he saw them several times. Close to *Ninjink-Tangra* he entered the mountains of *Lurkinh*, called *Larkin* in the maps.

* *Histoire des Huns*, Vol. II, in the beginning.

VII. This sacred mountain, or heaven-like country, made part, it seems, of the sacred cosmography of the ancients. The *Jews* had some notions of it, and called it the mountain of God: they afterwards, with great propriety, gave that name to mount *Moriah*. The *Greeks* had their mount *Olympus*, inaccessible but to the Gods; and *I'dá-vratta*, or *Ilá-vratta*, signifies the circle of Ila, the Earth, which is called also *I'dá*. *Olympus* is derived from the *Sanscrit Ilápu*, or *Ilápus*, the holy city of Ila, or Ida: thus it appears, that *Olympus* and *Ida* were originally the same. In remembrance of this holy circular space, the *Greeks* and *Romans*, when wishing to build a town, marked out a circle, which the first called *Olympus*, and the others *Mundus*, from the *Sanscrit Man'da*, a circle; they said also *urbs orbis*, which is a translation of *man'da*, in the language of the Gods, into that of mortals. According to Du Perron, the *Parsis* are acquainted with such a mountain in the centre of the world; and so are the *Musulmans* to this day. It was not unknown to our ancestors, the *Scythians;* for they are introduced by Justin, saying, that their native country was situated on an elevated spot, higher than the rest of the world, and from which rivers flowed in all directions. The *Jews* and *Greeks* soon forgot the original *Méru*, and gave that name to some favourite mountain in their own country; the first to mount *Sion*, or *Moriah*. The *Greeks* had their *Olympus*, and mount *Idá*, near which was the city of *Ilium*, *Aileyam* in *Sanscrit*, from *Ila*, whose inhabitants were *Meropes*, from *Merupa;* being of divine origin, or descended from the rulers of *Méru*.

This mountain was even known in *Europe* to a late period; for it is mentioned in the *Nubian* geographer, under the name of *Moregar*, from *Meru-*

giri, or *Meru-gir*, the mountain of *Meru*. It is described by him as of an immense height, circular, and enclosing several countries within.

This sacred mountain is called, by divines in *Tibet*, *Righiel:* hence SOSTHENES, as cited by PLUTARCH*, instead of saying that DIONYSIUS, or BACCHUS, was born on mount *Méru*, or *Meros*, says, that he was born on mount *Argillus*, which he places, it is true, either in *Egypt* or *Ethiopia*.

In the same author we find another ridiculous story about this mountain, under the name of the bed of BOREAS, which he says was one of the highest peaks of mount *Caucasus*, and from which JUPITER hurled SATURN down into *Tartarus*. Mount *Méru* is called, in the *Deccan*, the mountain, peak, *Cút'a* of *Boreca*, or the pole *Boureka*, by Mr. BAILLY, and other *French* authors. In the *Tamuli* language, and others in that country, the North is called *Vádaca*, *Vádaburrám*, or *Vádapurram*, generally pronounced *Váraca*, &c. the North wind *Váran'ada*, from the root *Vada*. In *Sanscrit*, *Udac* is the North, or *Uttara*. *Vada* signifies originally high, great, &c. and the North is called, in *Sanscrit*, *Uttara*, from its being supposed to be the highest point on the surface of the earth. The *Greeks* thus translated *Cút'a*, the peak of *Burraca*, *Badaga*, *Badaca*, by the bed of BOREAS; because *Koité*, in *Greek*, signifies a bed. This mode of translation seems to have been much in use among them; for they translated *Deo-bán*, the forest of the Gods, by *Theon-painai*, *Deorum-pœnæ*. The *Atshámi*, a powerful tribe in the hills near the *Ganges*, by *Astomi*, or people without mouths.

---

* PLUTARCH de flum.

The *Bittigi* mountains of PTOLEMY, in the *Deccan*, are in the country of the *Badegas*, according to *European* travellers of the seventeenth century; and their language is called *Badega*. The inhabitants of that country are called, in the *Tamuli* dialect, *Váducin;* and by others *Vaduca* and *Vadugas*, but generally pronounced *Várugás* and *Warugas;* though in writing they retain the letter D, which has a peculiar sound between D and R, as in *Sanscrit*. NONNUS, in his *Dionysiacs* *, takes particular notice of mount *Méru*, and of its circular surface on its summit. "BACCHUS," says he, "or "CRĬSHNA, divided his forces into four armies; "one he sent to the foot of the Northern mountain, with a circular summit, and surrounded "with deep vallies shaded with trees; and from "this peak, in *Caucasus*, issue many rivers, de"riving their waters from JUPITER." This was JUPITER PLUVIALIS, the INDRA of the *Hindus*, who holds his court on the summit of *Méru*, which is called the *Swerga*, or heaven of INDRA. To this mountain EUHEMERUS gives the name of *Olympus*, and very properly. It is emphatically called, as we have seen, the circle of *Ilá*, or *Idá*, or *Ilávratta;* it might be called also *Ilápu*, or *Ilápus*, the city of the Earth, or *Ilá-pus*, from *Ila* or *Ilas*, which sounds exactly like *Ilos* in *Greek*. ILA was the son of VAIVASWATA-MANU, or NOAH, and who, in his old age, resigned the empire of the Earth to him; and thus he became *Ilá-pati*, or *Jijá-pati*, the Lord sovereign of the earth, and ILUS the eldest, in HOMER, lived near mount *Olympus* and *Ida*, in the city of *Ilium*, inhabited by MEROPES.

ILA', *Idá*, and *Irá*, in *Sanscrit*, signify the earth;

---

* NONNI *Diony*. lib. XXVII. v. 150, &c.

and these three names are to be found in the *Greek* language: *Ilys*, or *Ilos*, signifies *mud; Era* is the earth; and IDA' is the name of the goddess Earth, *Idæa mater*, both in *Greek* and the ancient *Gothic*. ATHENAGORAS, as cited by RUDBECK*, informs us, that, according to ORPHEUS, water was first, and from it was created *Ilys*, or Earth, *in an unformed* state; ILA', or ILA's, was the son of MANU, or NOAH, called also MITRA VARUN'A in the *Purán'as*, or the friendly VARUNA, or NEPTUNE. According to HESYCHIUS, ILAON, a hero, was the son of POSEIDON, the God of the sea. *Jyá*, in *Sanscrit*, is the Earth; and in *Greek*, *Aia*, *Gê*, or *Gaiá*, which last signifies *earth*, and also *dust*. Thus, in *Sanscrit*, *Ilá* is the earth, and *Aileyam* is dust and earth also. *Aileyam-pus* is synonymous with *Ilá-pus*, and is the famous city of INDRA, and of the Gods; a *heavenly city*, which is really a *terrestrial heaven*. The followers of ALEXANDER mistook a small mountain, between *Cabul* and the *Indus*, for the original *Méru*. This is called *Méru-s'rïnga*, or the peak of *Meru*, in the *Purán'as*, and is considered as a splinter of that holy mountain. There are many other hills thus called in *India*, besides artificial ones; and the Gods are supposed to come and sport there occasionally. The *Greeks* had likewise several holy mountains, called *Olympus* and *Ida*. EUHEMERUS calls it *Triphylian Olympus*, because JUPITER TRIPHYLIUS, or SÍVA, with his *trident (trisul)*, resides there, and fixed it on its summit. The *Trisul* is called *Triphala*, in the North-West parts of *India*, from the *Sanscrït Tri-phala*, which is rendered in Lexicons by *Tri-cantaca*, or having three points. The word *phala* was used in the West in that sense, and the obelisks in the circus were called *Phalæ*. But as

* Volume II, page 466.

Tri-philios, in *Greek*, signifies three tribes or families, EUHEMERUS thought proper to translate it thus; besides, he found three nations and cities in the legends of *India*, which he might conceive countenanced his translation. The abode of *Uránus* was called *Cœlus*, or *Coilus*, by the *Latians;* and he is the same with SÍVA, called the God of *Cailás*, because he resides on *Cailása*, one of the three peaks on the summit of *Méru*.

Mount *Meru* is said to be of four different colours, toward the four cardinal points; but the *Pauránics* are by no means unanimous about them; and the seas, through the reflection of the *solar* beams from each side, are of the same colours. The East, like the *Bráhmens*, is of a white colour; the South, like the *Vaisyas*, is yellow; *Apara*, the West, like the *Súdras*, is of a brown or dark colour; and the North is red, like the *Cshatriyas*. But in the *Haimavatchanda*, *Méru* is said to be supported, or propped, by four enormous buttresses; that toward the East, is of pure gold; toward the South, of iron; to the West, of silver; and the buttress to the North, of copper. Thus toward the East it is yellow, to the South red, white to the West, and of a dark brown to the North. There are several other opinions, which I shall pass over with observing, that the *Indian* ocean is called *Arunoda*, or *Arunodádhi*, or the *Red sea*, being reddened by the reflection of the *solar* beams from that side of *Méru* which is of that colour; and PLINY nearly says the same thing*. I shall pass over the extravagant accounts of this famous mountain, represented by some as a cone, by others as an inverted one. In *Ceylon*, they say it is in the shape of an immense

* PLINY, Lib. 6. c. 23.

round column: in *Tibet* this column is said to be square; some of the followers of JINA compare it to a drum, that is to say, they give it the shape of a barrel. This idea, however extravagant and absurd, prevailed once in the West, as we have seen before.

VIII. The rivers flowing from *Méru* are four in number: there are four also in scripture; and we read, in the *Edda*, of four primæval rivers of milk flowing from the teats of the cow *Audhumbla*. In all these accounts, these rivers are only branches of an original one, called *Swargangá*, or *Mandácini*, in the *Puránas*: in the *Edda* all rivers derive their origin from that called *Ilver gelmer*; but in scripture it has no name.

It rises from under the feet of VISHNU, at the polar star, and, passing through the circle of the moon, it falls upon the summit of *Méru*, where it divides into four streams, flowing toward the four cardinal points. According to *Genesis*, this river went forth, watering the garden of *Eden*, and of course winding through it; from thence it was parted, and became into four heads. The *Pauráńics* use the same expression, but in a literal sense; and suppose that these four branches pass actually through four rocks, carved into the shape of four heads of various animals. The *Ganges*, running towards the South, passes through a cow's head; hence *India* is called the country of the *Cow*, its inhabitants are descended, according to some, from a cow, whence they are styled *Gau-vansas*, they were originally *Go-pálas*, or simply *Pallis*, or shepherds. To the West is a horse's head, from which flows the *chacshu* or *oxus*: and the inhabitants of the countries bordering on it, are of course *Aśvas*, or *Turangamas*, horses or rather horsemen. Ac-

cording to Scripture the house of TOGARMAH, or THORGAMA, as he is called by CEDRENUS and SYNCELLUS, traded in the fairs of *Tyre*, with horses. Toward the East is the head of an elephant, from which flows the river *Sitá:* and to the North is a lion's head, from which flows the *Bhadrasamá;* hence this country, the same with *Siberia*, is called the kingdom of the lions: and there was actually a powerful *Tartarian* tribe called the tribe of the lion.

The *Baudd'hists* have no rivers on *Méru;* but place the origin of them in the South-West quarter. The reason of this is, that they place the seven *dwípas*, or ranges of mountains, with their seas between *Méru*, and *India*, or *Jambu-dwípa*. These seven seas, or rather the river of milk, winding seven times round *Méru*, is the original river, which re-appears in the South-West, and there parting, becomes into four heads of animals, the same as in the *Purán'as*. But the rivers are very different, being the *Ganges*, the *Sind'hu* or *Indus*, the *Pahkiu* or *Brahmá-putra*, which springs from the head of an elephant; and for this reason upper *Tibet* is called the kingdom of the elephant, though there are no elephants there at present. The other river, toward the North, issues from a lion's head, and is called *Sitá:* it is the *Oxus*. These four rivers spring from the roots of the tree *Jambu*, of a most extravagant size. The *Baudd'hists* seem to know but of one tree of knowledge, and granting all our wishes. The *Paurán'ics* have many, which they call *Calpavrĭcsha*. There is but one in the *Mosaical* account, and the *Musulmans* acknowledge but one, which they call *Tuba:* and our ancestors boasted of the famous Ash-tree *Ygdrásil*. This river of milk, winding round *Méru*, is not peculiar to the followers of BUDD'HA; I re-

member seeing in one of the *Purán'as*, that the heavenly *Ganges* winds seven times round *Méru*: that is between that mountain, and the *dwípa* of *Jambu*. The *Styx*, according to mythologists in the West, went nine times round the world; for nine was a favourite number among them: and the ancient *Goths* reckoned nine worlds, or *dwípas*. The elevated plains of *Méru* are perhaps the highest spot, or at least the highest flat in the old continent. Its height toward *India*, and *China*, is prodigious: it is not so considerable toward the North, and is still less toward the North-west, where the ascent between the *Lithinos-pyrgos* or stone-tower, and the station of the merchants trading to *China*, is by no means very difficult. The *Lithinos-pyrgos* still exists under the name of *Chalsatoon*, or the forty columns; and is famous all over these countries. The station of the merchants is still their place of rendezvous to this day, and is called *Tuct-Soleiman*, or the throne of SOLOMON. The *Lithinos-pyrgos* is at the extremity of a small branch jutting out of a range of mountains to the left of the road, or to the North, and projects toward the South, and ends abruptly in the middle of a plain. Its extremity, consisting of a solid rock, has been cut into a regular shape, with two rows, each of twenty columns. The front part is in a very ruinous condition, and the upper row of columns remains suspended from the top: the columns below answering to them, with their entablature, having been destroyed. It is a most wonderful work, and ascribed by the natives to supernatural agents as usual.

At the distance of a day's march toward the East, is *Hoshán*, or *Oshn*, called also *Oosh*, or *Owsh*: there begins a chain of mountains, from which springs a rivulet called *Aschon* by STRAHLENBERG:

the range itself is called *Aidzin* by Major RENNELL, in his map of the twenty *Satrapies* of DARIUS HYSTASPES. There ends the country of *Bokhára*, and begins the empire of *China*. It is a famous pass, and is naturally the rendezvous of the merchants trading from the West to *China*. It is defended by a fort, now in ruins, and on a small peak near it is a very ancient building, like a tower, of a wonderful structure, called the throne of SOLOMON, near it is a mosque of curious marble. Then, for ten days, there is nothing remarkable; the ground gently rising and falling; and you arrive in the vicinity of mines of lead, which is exported all over the country. Two days further you enter the plains of *Cashgha*, which is one day's journey further.

This account is taken from the journal of a *Russian*, called CZERNICHEF, who travelled that way from *Bokhára* to *Cashmir*, in the year 1780, and was kindly given to me by P. WENDLE, at *Lucknow*. He had been made prisoner on the frontiers of *Siberia*, by the *Calmacks*, and sold as a slave to the *Usbeck Tartars*. His master, who was a merchant, went to trade to *Cáshghár*, *Yárc'hand*, and *Cashmir*; and, being pleased with his behaviour, gave him his liberty. In company with some *Armenians* he came to *Lucknow*, where he was relieved by Sir EYRE COOTE, whose generosity enabled him to revisit his native country. P. WENDLE represented him to me as a plain honest man, and with his master he had learned *Persian* enough to make himself understood. His route from *Cogend* to *Yárc'hand* is as follows:

From *Cogend* to *Cucan* . . . . two days,
Márhelán, ... one day,
Gherábá and *Chálsatoon* . . . two days,
Hoshán pass . . . . one day,

Lead mines	ten days,
To *Girrel*, and entrance into the plains	two days,
Cáshghár, with a mud fort . .	one day.

In the mountains to the right of the road from *Cáshghár*, to *Yárc'hand*, he was told that the *Indus* had its source. According to the account of some natives of *Samarcand*, the first part of the route stands thus:

Cojend,	
Cámbádam	10 coss,
Cucan	12
Murghulán	15
Nemukhán	10
Tukt-Soleiman or *Oush*	10

Their account was from report; for they never had travelled that way. *Cánbádam* seems to be the *Candeban* in STRAHLENBERG's map: *Cocan* or *Cucan*, the *Cqena* of the *Nubian* geographer: and *Nemukhán* is the *Namagan* of STRAHLENBERG's. The *Lithinos-pyrgos* seems to be the *Cliff* or *Aacaba* of the *Nubian* geographer, which must have had something very remarkable to be thus noticed. One day's march toward the East is the fort and pass of *Astas*, *Atas*, or *Ætshan*. The fort on a high hill was built to put a stop to the incursions of the *Turks*, from *Bagharghar* or *Tancabas*, whose capital city was thirty-seven days march to the Eastward. From *Astas* to *Tobbot*, there were ten days march, according to the same geographer, who meant *Cáshghár* by it, perhaps, because the caravans to, and from *Tibet* met there; and Mr. DANVILLE is of the same opinion. In ULUGBEG's tables, and in the *Ayin-Acberí* in the printed copies, we read *Rus* instead of *Oush*: the distance between *Cogend* and *Oush* is about one hundred and thirty

miles, which agrees tolerably well with the above account.

Between the ranges to the North and South of *Méru*, the *Pauráńics* place two other ranges of mountains; one on each side of *Méru*, and in a North and South direction. The Western range, called *Gand'hamádana*, does really exist, and answers to the *Comædi* mountains of PTOLEMY, called also *Cumuda* in the *Puráńas*. But the Eastern range, called *Mályaván*, and answering to the former, exists but in the imagination of the *Pauráńics*; symmetry certainly required it, and this was enough for them.

IX. In the *Váyu Puráńa*, we are told, that the water or *Ogha* of the ocean, coming down from heaven like a stream of *Amrita* upon *Méru*, encircles it, through seven channels, for the space of 84,000 *Yojanas*, and then divides into four streams, which, falling from the immense height of *Méru*, rest themselves in four lakes, from which they spring over the mountains through the air, just brushing the summits. This wild account was not unknown in the West; for this passage is translated, almost verbally, by PLINY and Q. CURTIUS, in speaking of the *Ganges*. *Cum magno fragore ipsius statim fontis Ganges erumpit*, et magnorum montium juga recto alveo stringit, *et ubi primum mollis planities contingat*, in *quodam lacu hospitatur*. The words in Italics are from PLINY *, the others from CURTIUS †.

These four lakes are called *Aruńodá* in the East; *Mánasa* in the South; in the West *Sitodá*: the fourth, in the North is called *Mahá-Bhadrá*.

* PLINY VI. c. 18°. † CURTIUS VIII. c. 9°.

From *Mána-Sarovara*, or, according to the vulgar pronunciation, *Mánsaraur*, the lake of *Mána* or *Mánasa*, issues the *Ganges*. According to PURA'N-GIR, who accompanied the late LAMA to *China*, and had seen that lake in his way from *Lassa* to *Ládac*, it is called in *Tibet*, *Chu-Mápanh*, or the lake of *Mápanh*. In the LAMA's map it is called *Mapama*: but PUR'AN-GIR, a well informed man, assured me that its true name was *Mápanh*. It was probably written at first *Mapam* by *Portuguese Jesuits*, in whose language the letter M, at the end of a word, has a nasal sound, as it had in *Latin*, and is to be sounded like the letter N at the end of a word in *French*.

This lake is constantly called *Mánsaraur* by pilgrims; but there appears, according to the *Pauránics*, to be another, a great way to the North; this they call *Bindu-Sarovara*, or the lake formed by the *Bindu*, or drops of water falling from the hair of MAHA'-DEVA, when he received the holy stream, from on high, on his head. There is certainly some confusion in the *Puránas* about *Mána-Sarovara*; and we must then acknowledge two lakes of that name: one on the summit of *Méru*, and the other to the South of it: for the sacred books cannot be reconciled otherwise. In that case *Bindu-sarovara*, mentioned but seldom, is the same with the Southern *Mana-sarovara*. The great *Mána-sarovara*, which proceeded from the heart of BRAHMA', is on *Méru*, and the four great rivers issue from it: but from this *Mansaraur*, South of *Méru*, the *Ganges* is the only river issuing. It is of course the same with *Bindu-saraur*, or the lake *Mápanh* of those of *Tibet*.

According to PURA'N-GIR, this lake is situated on an elevated plain covered with long grass, to the

North of which is a conical hill called *Khyem-lung*, and dedicated to MAHA'-DEVA; and which is inserted in the map of the LAMAS, but without name, and with two roads ending there. It is one of the Southern peaks of mount *Cantaisch*, which rises above the rest to an amazing height. A small stream, rising behind the subordinate peak of *Khyem-lung*, is considered by pilgrims as the source of the *Ganges*. There ended the survey of the *Lama* mathematicians; and the countries to the South, and South-West, were added afterwards, from the report of natives. During the rains the lake is said to overflow, and several streams rush down from the hills: but they soon dry up, even the sacred stream itself not excepted.

According to PURA'N-GIR, and other pilgrims from *India*, this extensive plain is surrounded on all sides by peaks, or conical hills, but very irregular: toward the North they rise gradually, and a little beyond the sugar-loaf hill of *Khyem-lung* begins the base of *Cantaisch*. Toward the East the range of peaks is very low, forming only a serrated crest. To the South this crest is much higher than toward the other cardinal points: but, to the North, the mountains beyond the crest are very high. The Southern crest is very near the banks of the lake. The lake itself forms an irregular oval, approaching to a circle, but the two inlets or smaller lakes to the North are said not to exist, for PURAN'-GIR's route was to the North of the lake, and close to its shore, and he did not see them. Pilgrims are five days in going round the lake, and the place of worship, or *Gombah*, is to the South. It consists of a few huts, with irregular steps down the banks of the lake. The *Ganges* issues from it, and during the dry season its stream is hardly five or six inches deep. It does not go through the

lake called *Lanken* in the maps; it flows to the South East of it, at the distance of two or three coss. This lake is called in *India* the pool of RA-VANA: and because he is the Lord of *Lancá*; his pool is called the lake of *Lancá*, or *Lanken*, in the maps.

The lake of *Man-saraur* is mentioned by PLINY, as I observed before, and it is probably the same that is mentioned by CTESIAS, who says it was eight hundred *stadia* in circumference. M. POLO describes it as to the West of *Tibet*, but does not mention its name. It is noticed by P. MONSERRAT, who accompanied the Emperor ACBAR in his expedition to *Cabul*, in the year 1581. He calls it *Mán-saruor*, and, from the report of pilgrims, places it in thirty-two degrees of latitude North; and about three hundred and fifty miles to the North-East of *Serhind*. The first *European* who saw it, was P. ANDRADA, in the year 1624: and in the years 1715, and 1716, it was visited by the missionaries P. DESIDERIUS, and EMANUEL FREYER.

The *Burmahs* call this lake *Anaudát*, and place four heads of animals to the four cardinal points, from which spring the four great rivers; and thus, in the opinion of the divines of *Tibet* and *Ava*, this lake is the real *Mán-saraur*. From this description one might be induced to suppose this lake to be the crater of a *Volcano*, but much larger than any now existing. CTESIAS says that a liquid matter like oil was swimming on its surface, and was carefully collected by the inhabitants, and M. POLO adds, that pearls were found there. The pilgrims I have consulted knew nothing either of this precious oil or of the pearls. They shewed me, however, small pebbles, some like pease, others as big as a pigeon's egg, which they told me were found on the shores

of that lake, and that pilgrims used to take a few of them as relics, to give to their friends:' and I was presented accordingly with some. They are in general as transparent as the purest chrystal, and I should suspect them to be pieces of chrystal, broken and rounded by mutual attrition, occasioned by the motion of waters.

To the West of this lake springs the *Sita-Cánt'há*, probably the *Sitocatis* of ARRIAN. It is called also the *Mlech'há-Gangá*, or impure *Ganges*: and is supposed, by some, to be the same with the *'Satlaj* or *Sitlodá* in the *Panjáb*: this erroneous idea seems to originate from its being called by pilgrims *Sitlodá*: but its true name is *Sitodá*, nearly synonymous with *Sita-cánt'há*. The famous JAYA-SINHA, *Rajah* of *Jaypoor*, sent people as far as the Cow's-mouth, and they found that the *Sitodá*, after flowing for a considerable space toward the West suddenly turned to the South, came within two miles of the Cow's-mouth, and fell into the *Ganges* about sixteen coss lower.

To the East, or *para*, is the *Arun'oda* lake, literally the water or lake of *Arun'a* or *Dawn*: and it is called to this day *Orin-nor*, or the lake of *Orin*, and from it flows the yellow river, the *Sitá* of the *Purán'as*, called also *Para-Gan'dica*, or Eastern *Gan'dica*.

APAREN'A, or to the West, is the *Sitodá* lake from which issues the *Apara-Gan'dicá* or Western *Gan'dicá*, called also *Chacshu* in the *Purán'as*; *Oxus* by the *Greeks*, and *Cocshu* by the natives. This lake at the source of the *Oxus*, is noticed in some maps: by the natives it is called *Cul* or the lake; and by *Persian* authors *Div-sarán*; according to Sir W. JONES, in his life of NADIR-SHAH; *Deva-*

sara, in *Sanscrit*, signifies the lake of the Gods, or the divine lake. According to them it is near the mountains of *Andemas* from the *Sanscrit And'ha-Tamasa*, or *And'h-Tamas*: both words imply darkness; but being joined together, imply it in a superlative degree; and it is the name of one of the divisions of hell. On their summit is the *Belur*, or dark country of the maps. The *Ant'hema* mountains are called *Sacránthema* by BERNARD GOEZ. An intelligent and well informed native of *Biducshan*, and royal messenger of that country for forty years, under AHMED and ZEMAN-SHAH, informed me that *Ser-Anthema* is the true name; that *ser* or *sereh* signifies in his country, *end*, *limit*, or *border*, and appears to be the name of a place near the *Anthema* mountains, as *Ser-Hind*, or on the borders of *Hind*. This lake is said to be three days journey in circumference. The *Oxus* does not spring immediately from it, but at the distance of fifteen miles to the West it emerges from the ground. The *Cocsha* is the sacred stream which sanctifies the waters of the *Oxus*; but by no means the main stream, which is more to the North. It is so with regard to the *Ganges*, the sacred stream of which is called *Alacananda*, and is but a small river, the source of which is twelve coss to the North-East of *Badaricásrama*, and, I believe, about 130 miles from *Hardwár*. From the lake to the hills to the Eastward is an extensive plain, called *Sárágh-Chopawn*, or the plains of *Chopawn*. There are four places there mentioned by GOEZ, *Ciarciunar*, or *Chár-Chunár* the four cedars, like the four cedars, or pines, perhaps, near *Cashmir*, called *Chár-Chunár* also: these four trees no longer exist *. *Sarcil* was explained to me, by CAMBER-ALI, the king's messenger, by *Sereh-*

* Mr. FORSTER renders the word *Chunár* by *plane trees* in his account of *Cashmir*, and he is perhaps right.

cul, or *Ser-cul* close, or on the borders of the lake: and *Serpanil* by *Ser-pamer*. These mountains are called in the *Puráńas Cumuda*, the *Comædi* of PTOLEMY, and *Anjana* or *Cr̆ishna* the black mountains. CAMBER-ALI gave me a dreadful account of them from report, for he never saw them, but at a distance.

The fourth lake in the North is called *Mahá-Bhadrá*, which is probably the lake *Saisans*, from which flows the river *Irtiz*. As the epithet *Maha* implies a great lake, I am sometimes inclined to suppose it to be the same with the lake *Baikal*; but it is too much out of the way: though I must confess, that its distance can be no objection with the *Pauráńics*. Besides, the *Baikal* lake is called to this day *Sweto-more*, or the holy and sacred sea, and the country about it, and all along the *Ergone*, or *Argon*, is considered as holy by the *Hindus*, who occasionally visit this sacred spot. BELL, in his travels, mentions his seeing a *Hindu* there from *Madras*. STRAHLENBERG saw another at *Tabolsk*, who, it seems, had settled there. I have seen two who had visited that country, one was called *Arees'-wara*, whom I mentioned in my essay on mount *Caucasus*. The four sacred rivers springing from the *Mán-sarovara*, according to the divines of *Tibet*, are the *Bramá-putra*, the *Ganges*, the *Indus*, and the *Sitá*. The *Ganges* is the only one that really issues from that lake, or if the three others do, it must be through subterranean channels; and such communications, whether real or imaginary, are very common in the *Puráńas*. The *Sitá* may be the *Sitodá*, *Sitlodá*, supposed to communicate with the *'Satlaj* or *'Satodara*, thus called from its hundred branches or bellies, through which it is supposed to fall into the sea.

The *Indus* was supposed formerly to have its source not far from *Mán-sarovara*, which P. MONSERRAT places in thirty-two degrees of latitude North; and the source of the *Indus* in latitude 32° 15′, the difference of longitude between the source and the lake 1° 45′.

The difference of longitude between *Delhi*, and *Mansarovara* is according to MONSERRAT 5° 2′. This places *Mánsarovara* in 82° 2′ of longitude, and both its longitude and latitude are remarkably correct: but what is more surprising, the good father was ignorant that the *Ganges* issued from it. ABUL FAZIL places the source of the *Indus* nearly in the same latitude with *Cashmír*, but eighteen degrees to the Eastward. The *Indus* has its source four or five days journey to the North-West of *Yárc'hand*, according to CZERNICHEF: it runs thence in a direction South South-East toward *Ládac*, and within two days journey of it: nay, merchants, who trade from *India* to *Cáshghar*, say it can be done in one day. The *Indus* then turns immediately toward the West, taking an immense sweep round *Cashmír*; and the place near *Ládac*, where it turns suddenly to the Westward, has been mistaken for its source.

X. The followers of JINA in the *Trai-locya-derpan'a* represent the old continent, as consisting of two concentric *dwípas*, of the same superficial extent. They call the whole world *Arai*, or *A'daidwípas*, literally the two and half *Islands*. The two first *dwípas* are *Zambu* in the centre, and *Dhátuci*: and they are divided by an intermediate sea. The whole is surrounded by the ocean, in which are many islands, called, in general, *Antaca* or *Anta-mai-dwípas*, or the islands at the *anta* (end,

or extremity) of the world. The first of them is the White Island, and the last *Swayambhuva-dwípa*, called *Pushcara* in the *Purán'as*.

Beyond this is the half of *Pushcara*, the *Swarn'a-bhumí* of the *Purán'as*, which surrounds the world, as well as the mountain of *Mánasottara*, called *Locáloca* by the *Pauránics*. Beyond this circular range is the other half of *Pushcara*: but as it is out of the world, it is not included in their system of geography.

In the division of the old Continent into nine parts by the *Pauránics*, *Bhárata* is erroneously introduced: it should be *Nábahi*. For AGNID'HRA, the son of PRIYAVRATA, the eldest son of ADIMA, had nine sons; called NABA'HI, ILA'VRATTA, CIMPURUSHA, HARIVARSHA, CETUMA'LA, BHADRA'S'VA, RAMAN'ACA, HIRAN'MAYA, and CURU. Thus we read in *Sanchoniathon* that PHOS, PHUR, or PHLOX, answering to AGNI'DHRA, begat sons of vast bulk, whose names were given to the countries they inhabited.

PRIYAVRATA had ten sons, as we have seen before; among whom was AGNID'HRA. Three withdrew into forests; and the seven remaining were appointed to rule over the seven great divisions of the world, called the seven *dwípas*. The great grandson of AGNID'HRA, called BHARATA, gave his name to the country South of *Himálaya*, which, under that denomination, was originally confined to *India*; but it is now made to extend from sea to sea, along the range of the Snowy mountains. This we are told in general in the *Purán'as*: but it is by no means the case, as it will appear from the particulars, that *Bhárata*, forms a semi-circle round

Méru, beginning in the West in fifty-two degrees of latitude, or nearly so: being, as it is declared in the *Purán'as*, in the shape of a Cow.

To King BHARATA, MAHA'DEVA gave eight sons and one daughter, called ILA', or *Cumárí*, emphatically the *Maiden*. A new division of the Earth took place according to some; but the general opinion is, that it was only a partial one. Be this as it may, it appears that, out of the ten divisions of the old continent, *Bhárata*, included nine; *Curu*, in the North, being excepted and left out.

According to the *Prabhásá-c'han'da*, the names of these nine *c'han'das* or sections are, reckoning from the East toward the West, *Indra-dwípa* or *Gand'harva-c'han'da*, *Caseru*, *Tamrapurn'ah*, *Gabhastimán*, *Cumáricá*, *(India)*, *Nagá-c'han'da*, *Saumya*, *Varun'a-c'han'da*, and *Gand'harva-c'han'da* again. In the *Revá-c'han'da*, their names are thus exhibited; *Gand'harva*, *Cáseru*, *Tamraparn'i*, *Gabhastimán*, *Cumáricá* or *India*, *Nága*, *Saumya*, *Varun'a*, *Chan'dra-dwípa*.

In the same section we find another variation; *Gand'harva*, *Cáseru*, *Tamrapatra* (erroneously for *Tamra-purn'ah*), *Shilastica*, *Cumáricá (India)*, *Bhága-dwípa* (probably for *Nága*), *Saumya*, *Varun'a* and *Chan'dra-dwípa*. The first and the last divisions are, in general, called *Ghand'harva-c'han'da*, being supposed to be the abode of the Gods, with their usual retinue of heavenly musicians. Through the seven remaining divisions, seven rivers are said to flow. They have a common source in the lake from which issues the *Ganges*. To the East are, the *Naliní*, flowing through *Cas'eru*; the *Pávaní*, through *Tamrapurnáh*; *Hládiní*, through *Gabhas-*

timán. To the West, the *Sitá* or *Jaxartes* flows through the country of *Varun'a*; the *Chacshu*, through *Saumya*; and the *Sind'hu*, through *Nága-c'han'da*. Between these, in the middle, is the *Ganges*, which flows through *Cumáricá-c'han'da* or *India*.

In the *Váyu Purána*, the origin of these seven rivers is thus described; North of *Cailása* is the *Gaura* mountain, at the foot of which is the *Bindu-sarovara*, or lake with golden sand. There went Bhagirat'ha to fetch the *Ganges*, called *Tripat'ha-gá*, because it goes through three paths, or channels.

There he obtained the *Ganges* from Maha'-deva, which dividing into seven streams or paths, is called, from that circumstance, *Saptad'há*. The *Sitá* goes through countries inhabited by the *Sirind'hras*, the *Cuntalas* with long hair, the *Chínas*, for this is considered as the native country of the *Chinese*; the *Barbaras*, *Yavasas*, *Druhas*, *Tushá-ras* living among snow, *Culindas*, *Ancas*, *Loca-varas*. The *Sitá* goes towards the West, and falls into the sea of salt water.

The *Chacshu* flows through the countries of the *Chínamanus*, or *Chinamen*, *Tanganas*, *Sarva-Cálicas*, *Sand'hras*, *Tusháras*; *Tumpacas*, read *Lumpacas*, *Pahvas*, *Daradas*, *'Sacas* or *Saxons*.

The *Sind'hu* goes through *Daradas*, *Cás'míras*, *Gand'háras* or *Gandari*, *Yavanas* or *Greeks* of *Bactria*, *Hridas*, *Rhotas*, the *Rhodoes* of the *Bassarics* of *Dionysius**, *'Sivapauras* (living in the town of *'Sivapura, or Sheopoor*), *Indrahásas Vadántis*, *Visar-jayas*, *Saind'havas*, (living on the banks of the

* Stephan of *Byzantium* ad vocem.

Sind'hu), Rand'hracáracas, Brahmat'as, Bhiraro-hacas, 'Suná-muc'has, Urdd'hamanus. The *Ganges* flows through the *Gand'harvas, Cinnaras, Yac-shas, Rácshasas, Vidyád'haras, Uragas* (or large snakes; these are tribes of *demons*, good and bad, in the hills), *Cálapagrámacas, Páradas, 'Sviga-n'as, 'Svas'as Cirátas, Pulindas, Curavas* in *Curu* about *Tanehs'ar, Sam-Bháratas, Panchálas, Cás'i* or *Benares, Matsyas, Magad'has* (or South *Bahar), Brahmottaras, Angas, Bangas, Calingas, Tamra-liptas* (or *Tamlook), Sam-Bhárata* or *Sammárata*, as pronounced in the spoken dialects, signifies a native of *India:* and I am told, that it is used, though very seldom, in that sense. The *Hládiní* or *Brahmáputra* goes through the *Nishádas, Rác-shasas, Upa-Bangas,* (or near *Bengal)*, the *Dhíva-ras* (or boatmen), *Rishicas, Nilamuc'has, Ceralas, Oshtacarn'as, Cirátas, Cálodaras, Vivarn'as, Cu-máras, Swarn'abhúshitas* (living near *Swarn'a-gam,* or *Sonargaum,* near *Dhacca.)*

The *Pávaní* flows through countries inhabited by the *Apat'has*, or whose country is without paths, then through the large lake of *Indrad'hyumna,* through the *C'harpat'has*, living near difficult passes, the *Indras'ambupat'has,* the *Mad'hyanod'há-nas,* the *Namascáras,* the *Cus'a-právaran'as,* then falls into that sea, in which is *Indra-dwípa,* and which joins the sea of salt. The *Naliní* goes through the *Tomaras,* remarkable for their quivers, as implied by their name, through the *Hansa-már-gas,* or those living near the paths of the *Anseres,* or water fowls, that is to say, among marshes; through the *Sa-hun-hacas,* or who seem to repeat incessantly the words *hong'hang,* like the *Chinese,* then, after forcing its way through many hills, it goes through the *Carn'aprávaran'as,* or wearing ear-rings, then through the *As'va-muc'has,* horse-

faced, *Sicatas*, parrot-faced, *Parvatamanus* or hill-men, and *Vidyád'haras*, and falls into the *Mahodad'hi*, or great sea.

The *Pávaní* is probably the river of *Pá* or *Bhá*, and called *Pa-chu* or water of *Pá* before it enters *China*, where it is called *Kin-sha-kyang*, and *Yangtse-kyang*. The lake of *Indrad'hyumna* is probably that, which covered once the province of *Yu-quang*, and was drained up in great measure by one of the Emperors of *China*; some extensive lakes in the lower grounds still remain. The epithet of *Namascárás* is well adopted to the *Chinese*, from their polite and ceremonious behaviour, with bowing, &c.

The *dwípa* of *Indra*, a very large island, appears to be *Japan*: for it is described as the island of the rising sun, which is the meaning of the words *Japan* or *Gepuen*. The *Nalini*, called *Sind'hu*, or *Burra-Attock* by pilgrims from *India*, is the *Hoang-ho* or *Cara-Moran*. It is called the great *Attock*, or forbidden river, because strangers are seldom permitted to go beyond it. This forbidden river is noticed by PLINY *, though he does not mention its name. It was equally forbidden to those, who came from the West, on the part of the Romans *(negotiatores nostri)*, or to those who came from *India*. For there were two roads frequented by merchants, according to PTOLEMY, from the metropolis of *China*; one leading to *Bactra*, and the Western countries, and the other to *Palibothra* and *India*.

The learned in *Napal*, consider the *Brahmáputra* to be the *Hládiní* of their sacred books. There

* PLINY 46', C. 22

came to *Benares*, about nine years ago, a most respectable native from that country, called BHAGIRAT'HA: being very old, he wished to die on the banks of the *Ganges*, at the holy place of *Cas'i.* He had been to *China*, and favoured me with a short account of his journey. There, he says, that the *Burrampooter* is the same with the *Hládini*, and that the *Hara-moren* is the *Naliní.* This river, says he, is also called, by *Hindu* pilgrims, the *Burrah-attaca*, or great *Attock*, or forbidden river. He had promised to favour me with further particulars; but soon after, the venerable old man breathed his last on the banks of the *Ganges.*

The *dwípa* of *Chan'dra* in the West will appear, in the course of this work, from the *Purán'as*, to include the *British* isles: but as it is considered here as one of the nine grand divisions of the Empire of *Bhárata*, the *Paurán'ics* must have comprehended under that appellation a more extensive region altogether, than the *British* isles, and including the Western parts of *Europe*, under the name of *Liguria*, or *Lloegyr*, which I shall shew hereafter to be synonymous with the country of *Chan'dra*, or *Lunus*, emphatically called *Urúpa*, or the Lord of the *Zodiac.* The king of the *dwípa* of *Chan'dra* being considered as a vassal, was occasionally summoned to appear before his Lord Paramount, with all the Kings of the world in *India*, at least, according to the *Revá-ch'an'da*, a section of the *Scanda-purán'a.*

SECTION II.

List of MOUNTAINS, RIVERS, *and* COUNTRIES, *from the* PURA'N'AS, *and other Books.*

I. IN the *Brahmán'da-Purán'a** we have the following list of the mountains, rivers, and countries in the Empire of BHA'RATA.

To the East it is bounded by the tribes of *Cirátas*, or shepherds, living in the hills to the North and North-East of *Bengal;* to the West, by the *Yavanas*, or *Greeks* of *Bactriana*. The four great tribes live in the middle, and there are seven principal ranges of mountains, or *cula parvatas: Mahendra*, toward *Madras*, *Malaya*, on the coast of *Malabar*, *Sahya*, toward *Poonah*, *Suctimán*, *Ricsha*, *Vin'dhya* (the *Bind* hills), and *Pariyátra*.

The inferior mountains are *Mandara*, *Vaihára*, *Dardura*, *Coláhala*, *Sasurasa*, *Mainúca*, *Védhyuta*, *Sriparvata*, *Cutuca*, *Cút'as'aila*, *Tungaprast'ha*, *Crishnágiri*, *Godh'ana*, *Hari-parvata*, *Pushpagiri*, *Jayanta*, *Raivátaca*, near the *Revá*, or *Narmadá* river. In these mountainous countries live the *'Aryya Mlech'has*, or foreigners; and all these mountains are in the *Deccan*.

The principal rivers are *Gungá*, *Sin'dhu*, *Sarasvati*, *Satadru* or *Satlaj*, *Chan'drabhaga* or *Chinab*, *Yamuna* or *Jumna*, *Sarayú* or *Sarjew*, *Airavati* or *Ravy*, *Vitasta* or *Bidasta*, *Vipas'a* or *Beya*, *Devica*, *Cuhu*, *Gomati*, *D'hutpápa*, *Báhudá*, *Drishadvatí*, *Caus'ici* or *Cosa*, *Vritiyá*, *Nirvirá*, *Gan'daci*, *Icshu*,

---

* Section of the Earth.

Lohitá: all these flow from *Himavat*, or the snowy mountains.

Vedasmrĭtí, Vedavatí, Vratraghní, Sind'hu, Váráń's'á, Chańdaná, Sadynírá, Mahi near *Cambay, Párá, Charmanvatí Vidis'á. Vetrávatí*, or *Betwá* river, *Siprá* near *Ujjain, Avanti:* all these rivers flow from the mountains of *Páriyátra. Soná, Narmadá, Sumahádrumá, Mandácini, Das'arńá* from *Chitracú'tá, Tamasá, Pippalá Sroń'í, Caratoyá, Currátyá, Pis'áchicá Chitotpalá, Vipásá, Jambulá, Váluváhiní, Sinerajá, 'Suctimatí, Matcuń'á, Tridivá, Cramá:* These are born from the *Rĭcsha* mountains.

The *Tápí Tapti, Payoshń'í, Nirvind'hyá, Madrá, Nishad'ha, Veń'avá, Vaitarań'i* near *Cuttac, Sinibahu, Cumudvatí, Nípá, Mahá-gaurí, Durgá, Antahs'ilá;* all these spring from the *Vind'hya* mountains. *Godávarí, Bhímarat'hí, Crĭshná, Veńu, Vanjulá, Tungabhadrá, Suprayogá, Caverí:* all these come from the *Sahya* mountains. *Crítamálá, Tamraparń'í, Carmajá, Puń'yalávatí*, from the *Malaya* mountains. *Trisámá, Rĭtuculyá, Dracshalá, Tridivá, Lángúlĭní, Vans'ad'hará:* These proceed from the mountains of *Mahendra*.

Rĭshicá, Sucumárí, Mandagá, Mandaváhiní, Crĭpá, Palás'iní, from the mountains of *Suctimán;* all these rivers flow immediately into the ocean. This is not true, for the *Sarasvotí, Yamuná, Gomatí, &c.* fall into the *Ganges*.

Then follow a list of countries: the names are in the plural, and of course signify the inhabitants of these countries. *Curu* near *Tahnesar, Pancháia, 'Sálva* or *Sálava, Jangala, S'úrasena*, the *Súraseni* of ARRIAN, *Bhadracára, Bod'há, Pat'hes'wara*,

Vatsa, Cisrìshta, Culya, Cuntala, Cás'icos'ala or *Benares, Tilinga, Magad'ha, Vrìca:* these are in *Mad'hyades'a* or middle of *India.*

In the North of the *Sahya* mountains rises the *Godáverí:* on the banks of the *Crìshná,* are extensive and famous districts: there is the mountain *Govadd'hana,* made by Indra; through Ra'ma's pleasure it is *Swerga,* or heaven. There Bharadwa'ja built a town, with gardens and pools. *Váhlica Balk, Vátad'hána, Abhíra* or *Pallis,* in *Candeish; Cálatoyaca, Aparíta, Súdra, Pahwava. Charma-c'han'daca,* probably the *Charmæ* of Pliny, *Camboja, Cuj* or *Coj, Roh-Coj* or *Arachosia, Darada Dardæ Dawurd, Barbara* or *Varvara Priyalaucìca, Pína, Tushára,* or snowy country. *Báhyatodara;* there live the descendants of Atri and Bharadwa'ja; *Prast'hala, Ças'eruca, Lampácast'hánaca,* those who live near the *sthán* of *Lampaca* or *Lamech,* now *Lamgan; Pídica, Juhúda, Apaga, Alimadra,* there live *Cirátas,* or shepherds; *Tomara, Hansamárga, Cás'míra, Tángana, Chúlica, Báhuca* in the *Vayu Purán'a,* '*A'huca, Purn'a-darva.*

To the East are the *And'hraváca, Sujaraca, Antaragiri* within the hills, *Báhirgiri* without the hills, *Plavangava, Angeya Malada,* or *Málda, Málavarti, Brahmottara, Pravijaya, Bhárgavángeya, Art'haca, Pragjyotisha,* now *Gohati,* in *Assam, Mun'da, Videha* the country of the famous Janaca: *Tamraliptica* or *Tamlook, Mála,* the *Malli* and mount *Mallus* of Pliny, toward the *Ganges,* now *Mal-bhoom* in *Midnapoor, Magad'ha,* or South *Bahar, Govind'ha.* Toward the South is *Pán'dya,* the country of Pandion, *Cerala, Cerala-des'a, Chailya* or *Chola Coromandala, Culya Setuca, Mushica, Cumána, Mahá-Rasht'ras Mahá-rattas, Máhishica, Colinga, Abhíra,* or *Pallis, Vaishica, A'ta-*

vya, living in the middle of thick forests, *Vara*, *Pulinda*, *Vind'hya-murvica*, *Vaidarbha* or *Burra-Nagpoor*, *Dan'daca*, *Paunica*, *Maunica*, *As'maca*, *Bhoga-vard'hana*, *Nairn'ica*, *Cuntala*, *And'hra*, now *Telingana*, *Udbhída*, *Nalaca*, *Alica*.

The next are in front of the *Vind'hya* mountains: *Suryácára*, *Colavána*, *Durga*, *Cálitaca*, *Puleya*, *Surala*, *Rupasa*, *Tápasa*, (these are probably the *Tabassi* of PTOLEMY; for, in the *Dekan*, they pronounce that word *Tabasa*,) *Surasita*, *Carancára*, *Násicya*, *Antara-Narmadá* within the *Narmadá*, *Bhánu-Cach'ha*, *Máheya*, *Sás'vata*.

The following are behind the mountains of *Vind'hya*: *Málava*, *Carusha*, *Mecala* along the *Narmadá*, called also *Mecalá*, *Utcala*, or *Orissa*, *Uttamárána*, *Des'áran'á*, (the country of *Dosarene*, in the PERIPLUS and PTOLEMY,) *Bhoja*, *Cish-cind'haca*, *Tosala*, (the *Tosale* of PTOLEMY, and *Jesual* of *European* travellers,) *Cos'ala*, *Traipura* or *Tipperah*, *Vaidica*, *Tumura*, *Tupura*, *Shatasura* near *Naishad'ha-desá*, *Anaya*, (in the *Váyu Purán'a*, *Anuya*,) *Tun'dicera*, *Vítihotra*, *D'hananjaya*.

There are also other countries called *Nigarhara* for *Nagarhara*, called *Nakierhur* in the *Ayín Acberi*, near *Cábul*, *Hansamárga*, the *Hun'sa*, probably the white *Hunni* of COSMAS INDOPLEUSTES, in the sixth century, and who inhabited the upper part of the *Panjáb*. Their chiefs were called *Collas*, and it is related, that once their army besieging a city, drank up all the water round it; as water is very scarce in that country, it is very possible. *Darva*, *Sahanhaca*, *Trigarta*, *Málava*, *Cuáta Támasa*.

II. In the *Vará-sanhita*, an astronomical treatise, there is a more complete list. In *Mad'hyam*,

middle or inland country, are the following tribes: *Bhadra, Arimeda, Man'davya, Salava, Nípa, Udjihána, Méru, Vatsa, Ghosha, Yámuna, Sárasvata, Matsa* or *Matsya*, all these are *Mad'hyamica* or in the midland *Mat'huraca, Apa-Jyotisha, D'harmáranya, Surasena, Gauragríva* with white necks, *Uddehica, Pan'dya, Gúdás'vatt'ha, Pánchála, Saceta* or *Oude* and *Benares, Canca, Curu, Cálacoti, Cucura, Páriyátra* (said to be at the source of the *Chumbul*), in other *Purán'as* it is called *Páripátra*; *Naga, Audumbara, Cápisht'ala, Gajáhvaya.* Toward the East, are the *Anjana, Vrishabha, D'hwaja, Padma, Málayavatgiri, Vyághra-muc'ha* or Tyger-faced, *Suhma, Cárvat'a, Chán'drapura, Suryacarana, C'hasa, Magad'ha, Sivirgiri,* the mountains of the *Siviras.* (These no longer exist as a nation: their name, in the spoken dialects, is *Suír.* They are said to have been very powerful once in the *Gangetic* provinces, as well as the *Bhar* tribe, who no longer form a body.) The *Siviras*, or *Sibiras*, are the *Sabiri* of NONNUS. *Mit'hila* or North *Bahar*, *Samatat'a, Un'dra, Asvavádana* or horse-faced, *Danturaca, Prácjyotisha,* the *Lauhitya* river, *Cshíroda-Samudra,* the sea or lake of milk, *Purusháda* or Canibals, *Udaya-giri, Bhadra, Gaúdaca* those of *Gaúda* or *Gaur*, (the *Corygazus* of PTOLEMY,) *Paun'dra, Utcala, Cas'i, Mecala, Ambasht'a,* (the *Ambastæ* of ARRIAN,) *Ecapada* or single-footed, *Tamraliptica* or *Tamlook, Cos'alaca,* called *Tos'ala-Cos'alaca* in the preceding list, *Vardd'hamána,* or *Burdwan.*

In the South-East is *Cos'ala, Calinga, Banga, Apa-Banga, Jat'ara, Anga, 'Svalica, Vidarbha, Vatsa, And'hra, Vaidica, Urddhva-cánt'a,* with high necks,) *Vrisha, Nálicera* or *Náricela, Sumatra,* according to the *Vrihatcat'há, Charma-dwípa, Vind'hyántaravásina,* (living in the interior parts of the *Vind'hyan* mountains,) *Tripura* or *Tipperah, 'Smas'-*

rud'hara, Hema-cú'ta, Vyálagríva, (with necks like snakes,) *Mahágríva,* (long necks,) *Cishcind'ha, Cántácast'halí, Nishádha-ráshtra, Purica, Das'árań'a, Nagnaparń'a, 'Sabara,* a wild race.

In the South is *Lancá,* or the peninsula of *Malaca, Cálájina, Sauricarń'á, Tálicata, Girinagara, Malaya* the *Malabár* coast, *Daradura, Mahendra, Málindra, Méru-Cach'ha, Carcot'a, Tanca, Vanavási, 'Sivica, C'hań'icára, Cauncań'a, 'Abhira, 'Acara, Veń'a, Avantaca, Dasapura, Gonardda, Ceralaca, 'Carń'át'a, Mahát'avi, Chittra-Cúta, Násicya, Collagiri, Chola, Crauncha-dwípa'h,* (the islands of the water fowls of *Lacca-dives,) Jat'ád'hara, Cáverya, Ríshyamuc'ha, Vaidurya, 'Sanc'ha,* or islands of shells, (they are more generally called *Barat'a* and *Barola;* hence cowries are called *Barat'as,* because they come from that country). *Muctátri Várichara, D'harmapattana-dwípa,* an island opposite to *D'harmapattan. (D'harmapattan* was formerly a place of some note between *Calicut* and *Cananor.) Gań'aráshtra, Crǐshna-Vellara, Pis'ica, Suryádri, Cusumanaga, Tumbavana, Cármáń'eyaca, Yámyodad'hi* the sea of *Yama,* or Southern sea, *Tápasás'rama-Rǐshica, Canchipura, Canjivoram, Chinapattana* or *Madras, Devárshica, S'inhála* or *Ceylon, Rǐshabha, Bala-deva-pattana,* or *Maha Balipura,* now *Mavelivoram, Dań'dacanana, Timingala, Sanábhadra, Cach'ha, Cunjaradarì, Tamraparní.*

In the South-West is *Pahwava, Camboja, Arachosia, Sind'hu, Sauvíra, Vádamuc'ha, Amba, Ambasht'a, Campilla, Narimuc'ha, 'Anartta, Pheń'agiri, Yavana-márgana,* (those who live toward the passes leading into the country of the *Yávanas,* or *Greeks* of Bactriana, or the frontiers of the *Yávanas,) Carń'aprávarń'a, Sabaraca, 'Súdra, Barbara, Cirata Chań'da, Cravyác'hya, 'Abhira, Chanchúca, Hemagiri,*

Sind'hu-Calaca, *Raivátaca*, *Surásht'ra*, *Bádara*, *Dravída*. These are in the great sea, or near the great sea, *Man'imán*, *Meghván*, *Vanogha*, *Cshurar-pan'a*, Astagiri, Apara'ntica, at the end of the West, *Sánatica*, perhaps *Sintica*, *Haihaya* the *Persians*, *Prasastádri*, *Uccána*, *Panchanada*, or *Panjáb*, *Rámatá*, *Párata*, *Táracshica*, *Jrïnga*, *Vais'ya*, *Canaca*, *'Saca*, *Nirmaryádamlech'has*. These are impure tribes living on the borders. In the North-West, *Man'davya*, *Tushára*, *Tála*, *Hala*, *Madra*, *As'maco*, *Culu*, *Talaha*, (*Strirajah*) or Amazones, *Nrïsinhavana*, *C'hasta*, *Ven'umatí*, *Phalaguluca*, *Aguruha*, *Maruha*, *Turuca*, *Charmaranga*, *Ecavilo-chana*, (one-eyed,) *Sulica*, *Dirghagríva*, or with long necks.

To the North is *Cailása*, *Himaván*, *Vasumángiri*, *D'hanushmán*, *Crauncha Méru*, *Uttara-Curu* with the epithet of *Cshudramína*, or North *Curu* under the lesser Fish, or the lesser Bear.

Caicaya Cabul, *Vasáti*, or *Yámuna*, *Bhogaprasta* or *Hardwar*, *Arjunáyana*, *Agnid'hra*, *Adars'a*, *Antaradwípi*, the *Doab* between the *Ganges* and the *Jumna*, *Trigartta*, *Tahora*, *Turagáma* or *As'va-muc'ha*, *Ces'ad'hara*, *Chipitnásica*, *Dáseraca*, *Vá-tad'hána*, *'Sarad'hána*, *Tacsha-s'ila* in the *Vrïhat-cathá*, (these are called *Tacshila*, the *Taxila* of the *Greeks*, and the ruins of which are to be seen between the *Vetastá* and *Indus*,) *Pushcalávata*, *Cai-nátaca*, *Cant'ad'hána*, *Ambara*, *Madraca*, *Málava*, *Paulava*, *Cach'ha*, *Dan'da*, *Pingalaca*, *Mán'ahala*, (now *Manhál* in the mountains to the North of the *Panjáb*,) *Hún'a*, (the *Hunnoi* of Cosmas,) *Co-hala*, *Sátaca*, *Mán'davya*, *Bhútapura*, *Gand'hara*, *Yas'ovati*, *Hematála*, *Rájanya*, *Cachara*, *Gavya*, *Yaud'heya*, *Sameya*, *'Syámaca*, *Cshemad'hurtta*.

To the North-East (it should be to the North-West,) is *Meruca*, (the mount *Meros* of the *Greeks*,) *Nasht'a-rájya*, *Páshupala*, *Cira*, *Cás'míra*, *Abhisára* (which includes part of *Cás'míra* to the North-West: this was the kingdom of ABISARES; by *Abhisára* they oftener understand *Cás'mira*,) *Darada*, *Tangan'a*, *Culúta*, *Sauritya*, *Vana-rashtra*. *Brahma-pura*, *Dárvada*, *Amaraváńa*, *Rájya-Cirúta*, *Chína*, *Caulinda*, *Palava*, *Lola*, *Jatád'hara*, *Cunaka*, *C'hasa*, *Ghosha*, *Canchica*, *Eca-charna*, *Suvarn'a-bhú*, *Vasud'hana*, *Divishta*, *Pauvara*, *Chívara*, *Nivasana*, *Trinetra*, (or with three eyes,) *Munjádri*, *Soma*, *Gand'harva*. Then *Pánchála*, *Mágad'hica*, *Cálinga*, *'Avartta*, *'Anartta* or *Dwáraca*, *Sind'hu*, *Sauvira*, *Hárhaura*, *Madrésa*.

To the South of the *Jambuná*, *Prayaga*, or *Allahabad*, *Narmadá*, *Ardd'ha-'Son'á* the *Sone*, (which is considered as the half of the *Narmadá*,) *Undra*, *Vanga*, *Suhma*, *Calinga*, *Váhlica*, or *Balk*, *'Saca*, *Yavana*, *Magad'ha*, *'Sabara Prágjyotisha* in *Assam*, *Chína*, *Camboja Arachosia*, *Mecala*, *Cirúta*, *Vicatá*, *Bahiránta-'Saila*, (within and without the hills,) *Pulinda*, *Dravira*, (all these are South of the *Yamuná*,) *Chambá*, *Udumbara*, *Causámbi*, *Vedi*, *Vand'hyát'aví*, (the forests of the *Vind'hyan* hills,) *Calinga*, *Pun'dra*, *Golángúla*, *'Sríparvata*, *Vardd'hamán*, or *Burdwán*, *Jeshumati*, *Tascara*, (a tribe of robbers,) *Párata*, *Cantara*, *Gopavíja*, *Tushad'hánya*, *Catuca*, *Taru-Canaca*, (or golden tree,) *Dahana-visha*, *Samaras'ura*, *Bheshaja*, *Bhishaca*, *Chatushpada*, (with four feet,) *Crishicara*, *Nripahinsra*, *Pápapapí*, (these are tribes of robbers,) *Vyáláran'ya*, (the woods of snakes,) *Yashoyuta*, *Ticshn'a*. (the Sun rules there,) *Girisalila*, *Durga-coshala*, *Marucach'ha*, *Samudra-Romaca*, (the sea of *Rome*,) *Tushára Vanavási*, *Tancan'a*, *Hala*, *Strírajya*, and the islands in the *Mahárn'ava*, or great sea, *Mad-*

hura-rasa, *Cusumaphala*, some read *Madhura*, *Rasaca*, *Sumaphala*, (this last is the name of the country at the source of the *Ganges*, according to the divines of *Tibet*, and the lake *Su-Mapanh* seems to be called by them the sea of *Matroba*) *'Salila-man'i* the jewel of the sea, *Lavan'a* the sea of salt, *'San'cha*, *Mauctica*, *Abja*, *Mandácini*, *Uttara-pan'dya*, or North *Pandu*, on ths banks of the *Hystaspes*. Between the river *Sind'hu* and *Mot'hura* on the *Yamuná*, is *Bhárata*, and the *Sauvíras*, (*Suír* in the spoken dialects,) *Sughna*, *Dĭvya*, (a river, the *Vipás'á* or *Beyah*,) *'Satadru*, *'Satlaj*, the country of *Rámata*, *'Sálava*, *Traigartta*, now *Táhorah*, *Paurava* or country of *Puru*, (Porus,) *Ambashta* Bad, near *Tanehsar*, *D'hanya*, *Yand'heya* or country of *Yudd'ha*, *Ayoud* between the *Vetastá* and *Sind'hu*, the country of *Sarasvata*, *Arjunáyana*, *Matsya*, *Ardd'ha-gráma*, *Hastyás'vapura*, *Mangalya*, *Paushtíca*, *Sacta·Carun'ya*. The following tribes drink of the waters of the *Airávatí*; *Ravy*, *Vitastá*, and *Chan'drabhágá*, the *Prast'halas*, *Málava*, *Caicaya*, *Das'arn'a*, *Ushínara*. The country of *Caicaya* is acknowledged to be *Cabul*, and *Málava* is *Malwa*, and of course they cannot drink of the waters of the above mentioned rivers: such blunders and inaccuracies are very frequent in the *Purán'as*: in the present list *Cás'míra* is placed to the North-East of *India*: and I could point out many more.

III. The *Tacsha-silas* mentioned in this list, are called *Tacshilas* in the *Vrĭhat-cat'ha*, and their country is said there to be on the banks of the *Vitastá*, or *Hystaspes*. They still exist as a numerous tribe, under the name of *'Syalas* or *'Seyalas*, and are divided into several branches; the *'Syálas* proper, those of *'Syál-cote*, of *Jehung-'Syál*, whose principal town is called *Yehungsiálan*, by Major Rennel, the *Cac-Syálas*, &c.

The immense ruins of *Tacshaila*, as it is spelt also, cover a vast extent of ground, upon which a town and several considerable villages have been built; but these ruins are now mere rubbish. The *Syálas* are exceedingly proud of their antiquity, talk of ancient heroes, yet they remember nothing of ALEXANDER, and his conquests. They are a fine race of men, tall, bold, and generous, like their neighbours the *Chátars*, the *Chateri* of DIODORUS, the *Sicilian;* the greatest part of the latter are still *Hindus*, and I have seen several of them at *Benares:* and their tribe is well known in *Penjáb*. The *Syálas*, and *Chátárs* are certainly a distinct race in that part of the country. The *Syálas*, or *Tacshas'ailas*, or *Silas* are also called simply *Tacshas* as well as *Syálas*. The *Syálas* say, that the ancient name of their city was *Uda-nágri*, and *Hud* that of their country, from one HUD-VALLALA, or the shepherd, called YULLULEAH by *Persian* authors, and LILAIOS, by the *Greeks**. The country of *Hud* is called *Hodu*, in the book of *Esther*, and seems to have included what is called *Sind* by *Persian* writers, at least the Northern parts of it. It is called *Yud'dheya* in the *Purán'as*, and *Ayud* or *Ayoud* by *European* travellers of the sixteenth century.

Serai Ravaut, called *Rubbaut* by Major RENNELL, is built upon the site of *Tacshila*, near *Serai-Puckah.*

---

* PLUTARCH *de flumin. voce Indus.*

CHAPTER THE THIRD.

GEOGRAPHICAL EXTRACTS *from the* PURA'N'AS.

I. FOR the satisfaction of the reader, I shall give a few specimens of the geographical style of the *Hindus*, in the very words of the *Pauránics*. The first specimen is from the *Brahmán'da-purán'a.*

Now I shall describe the length, and breadth of the earth; and give a true account of the seas and islands. Between the seven islands are thousands of smaller ones. I shall now describe the seven islands, with the Moon, the Sun, and the planets, with their dimensions, to the satisfaction of mankind. I shall describe the nine divisions of the island of *Jambu,* which exists from old, their length and circumference in *Yojanas.* The breadth of *Jambu-dwípa* is 100,000 of *Yojanas:* it is very large, beautiful, and circular. It includes nine divisions, with mansions full of living beings; it is surrounded by the sea of salt; the breadth of which is equal to that of *Jambu-dwípa.* Six ranges of mountains, with their divisions or countries, extend toward the East; which on both sides, East and West, join the Ocean.

Himapraya is *Himaván,* or full of snow: *Hemacút'taca,* full of gold, is *Hemaván: Nishad'ha* resplendent with gold, like the rising Sun: *Méru* of gold of four colours is the greatest of mountains; its body appears high in all its dimensions, of many colours all round, united by the skill of PRAJA'PATI BRAHMA'. Eastward it is white, like the offspring of BRAHMA', born from the navel of VISHNU; South it is yellow, and appears like a

Vais'ya. On the side of *Varun'a,* West, it is like the dry leaves of a tree; and like a *'Súdra,* looks *Méru* of many names. North it is red, and looks like a *Cshetri:* these are conspicuous from their colours.

Like the *Vaidúrya,* or *Lapis Lazuli* gem, is the *Níla* mountain: *'Swetas'ringa,* abounding with gold, and *'Sringaván* like the feathers of the peacock. These are the chief hills, like so many kings; inhabited by *Sidd'has* and *Gand'harvas.* The spaces between them are 9000 *Yojanas.* In the middle is *Ilávrata,* round *Méru,* a space of 9000 *Yojanas,* and this mount *Méru,* like fire without smoke, stands in the middle. The surface of the Earth stands one half on the South of *Méru,* and the other half on the North. Between these seven divisions are hills; their breadth is 2,000 *Yojanas* each, and 2,000 *Yojanas* their height.

I have mentioned the breadth of *Jambu-dwípa,* now the two middle ranges *Níla* and *Nishad'ha,* are 10,000 *Yojanas* less, *(in the Bhágavata* 1000 *only). 'Sweta* and *Hemacút'a,* likewise 10,000 less than the two former in length, and so are *Himaván* and *Sringaván.* In these seven Countries are seen the footsteps of living creatures, with hills here and there, as if scattered at random. The Country below *Himavat* is *Bhárata* by name: beyond is *Haimacút'a* with *Cimpurusha:* beyond is *Naishad'ha* with golden peaks, and the Country of *Harivarsham:* and beyond *Harivarsham* is *Méru* and *Ilávrata;* beyond *Ilávrata* are the *Níla* mountains, and the Country of *Ramyaca;* beyond *Ramyaca* is *Hiran'maya;* beyond this is *'Sringa,* and the Country of *Curu.* Know that the countries South and North of *Méru,* are shaped like a

bow. These are four districts remarkable for their length, between them is *Ilávrata*. The division of the surface behind *Nishad'ha* is called the Southern division: the division beyond *Níla* is called the Northern one. South of *Níla*, and North of *Nishad'ha* length-wise, and towards the East is *Mályaván*, a thousand *Yojanas:* high, like *Níla* and *Nishad'ha*. Its length is 34,000 *Yojanas*, West of it is the mountain of *Gand'hamádana*. Its length and breadth like *Mályavána's*. In the middle of a sort of circle, is *Méru* high, and of four colours; of four sides is this golden mountain, the greatest of all.

These four sides are remarkable, as they are the four paths of the five affections of the mind, from which, *as they answer to the five elements*, are produced all living beings.

The great God, the great, omnipotent, omniscient one, the greatest in the world, the great Lord, who goes through all the worlds, incapable of decay, and without body, is born a moulded body, of flesh and bones, *made*, whilst himself *was not made*. His wisdom and power pervades all hearts; from his heart sprung this *Padma Lotos* like world in times of old. It was *then* in this, that appeared, *when* born, the God of Gods with four faces, the Lord of the Lords of mankind, who rules over all, the Lord of the world: *when* this flower was produced by Vishnu, *then* from his navel sprang the worldly *Lotos*, abounding with trees, and plants: *then* the dimensions of this worldly *Lotos* became obvious to the sight.

Round it are four great islands or countries: in the middle like the germ is *Méru* thus called; a great mountain of various colours all round,

toward the East *para* it is white, I say: yellow toward the South: *apara* Westward it is black; and to the North red like the dawning morn *bálárca.* Its height is 84,000 *Yojanas:* 16,000 below the surface of the Earth. In the middle it is hollow like the germ of the *Lotos.* Its breadth is *above* 32,000 *Yojanas:* its circumference twice that, *added to it.* Round it are four larger countries, and many smaller ones. *Bhadrás'va, Bhárata, Cetumála* to the West, and to the North the *Curavas, Curu,* in the singular number; in which are men abounding in righteousness. The circumference of the germ *carn'ica* is 90,000 *Yojanas,* the internal circumference is 84,000: the *stamina,* filaments, or chives *ces'arajála* extend length-wise to the number of 100,000; and their circumference is 300,000 *Yojanas.* The four petals are 80,000 long, and as many broad. I am now going to describe this great and wonderful germ *carn'ica,* drupe, or pericarp.

It consists of 100,000 angles: BHRĬGU says 3000; SA'VERNI 8000; VARSHAPANI 1000; BHA'GURI says it is square; GA'LAVA that it is hollow; GRA'MYA that it is like an egg, with the broad end below. URD'HVEI'N, like three twisted locks of hair, whilst others will have it to be spherical. Every *Rĭshi* represents this Lord of mountains, as it appeared to him from his station. BRAHMA', INDRA, and all the Gods, declare, that this largest of all mountains, is a form, consisting of jewels of numberless colours; the abode of various tribes; like gold, like the dawning morn, resplendent, with a 1000 petals, like 1000 water pots, with 1000 leaves.

Within it is adorned with the self moving cars of the Gods, all beautiful: in its petals are the abodes of the Gods, like heaven: in its thousand

petals they dwell with their consorts. There resides above BRAHMA', God of Gods, with four faces, the greatest of those, who know the *Vedas*, the greatest of the great Gods, also of the inferior ones. There is the court of BRAHMA', consisting of the whole Earth, of all those who grant the object of our wishes: thousands of great Gods are in this beautiful court; there the *Brahmarishis* dwell; it is called by all the world *Manovati*. There in the East is INDRA for ever to be praised, the God setting upon a *vimána*, resplendent like a thousand suns. There the Gods and tribes of *Rishis* are always sitting in the presence of the four faced God: these the God makes happy with his resplendence: there the Gods are singing praises to him. There is the Lord of wealth, beautiful with a thousand eyes, the destroyer of towns: the *Indralocas* enjoy all the wealth of the three worlds. In the second interval, between the East and the South, is the great *vimána* of *Agni* or *fire*, with a great resplendence, variegated with a hundred sorts of metals, resplendent; and from whom sprang the *Vedas*: there is his court; he does good to all, and his name is JI'VANI', in the mouth of whom the sacred elements of the *homa* are put. There fire ANALA, the greatest of Gods, is seen in his proper form; he who gives delight to all the Gods.

On the third side, in this very same manner, know there is the great court of VAIVASWATA-YAMA, called by mankind SU-SANYAMA'. Thus in the next or fourth, is the court *Sabhá* of the Lord of the corner, or *country*, of *Nairita:* his court is called *Crishnánganá*; his name is VIRU'PACSHA', *with a disagreeable countenance*. On the West, know that there is the court of VARUN'A, called 'SUBHAVATI': Now toward the North, *in the North-West*, is the court of VAYU', called

GAND'HAVITI. In the seventh corner is the *Sabhá* of the Lord of the *Zodiac*, called MAHODAYA', his seat, most beautiful, is of *Vaídúrya*, or *lapis lazuli*. In the eighth corner is the seat of IS'A'NA, or 'SIVA; its colour is of fervid gold, and it is called *Yas'o-vatí*. These are the great and beautiful *vimánas* in the eight corners of the eight most benevolent Gods, called *Indra-muc'hyas*. There dwells on the summit the God of Gods, with four faces. There is the beautiful court of BRAHMA', served by tribes of *Rishis*: it is called *Manovatí*, by mankind. There the *Rishis*, the Gods, and *Gand'harvas*, the *Apsarásas*, the great snakes are the attendants, most fortunate, and constantly lifting up their hands.

Such is this *Carn'ica*, or germ, above the surface of the earth. Its circumference at the surface of the Earth is 48,000 *Yojanas*. This *Méru*, above the surface of the Earth, is declared to be a hill full of inhabitants. On all sides, in every country, are *maryádá*, or dividing mountains. In these countries are mountains with seven channels, one from each hill, with beautiful peaks, like gold, yellow, with many streams: without, there are three channels, and as many within *Jat'ara*, and *Deva-cúta*, are two hills to the East. Their length is from North to South equal to that of *Níla* and *Nishad'-ha*: *Cailása* and *Himaván* are South and North of each other: their length is East and West, jutting into the sea. Of this *Méru* very high, and of gold, the supports, or *buttress* like mountains, I shall now describe, like so many feet on four sides: 10,000 *Yojanas* is their breadth; and they are adorned on all sides with great *vimánás*. East is *Mandara*, South *Gand'hamádana*; *Vipula* West, *Supárs'va*, North. Their thousand peaks are so many seats adorned with black and red coral. There are four

large trees, each with as many roots *sa-mula*, and branches with thousand smaller ones, all beautiful, and with flowers: these trees are the largest in the *dwípas*. On the summit of the *Mandara* mountain is a beautiful *Cadamba* tree: its fruit is like a great waterpot, with flowers, with open *Calices*. Its fragrance is felt one thousand *Yojanas*, and above, all round: consider it then as a large flag: from its excellence, the country it is in, is called *Bhadrás'va*. Here is seen RĭSHICES'A, BHAGAVA'NA, and he, with numerous *Lidd'has*, rules there; here HARAHARI the great, the white, did obtain the tree *Rudracadamba*; he who does good to every body. No great man, *famous and learned* among the *bipedes*, ever saw this whole island called *Bhadrás'va*. The *Jambu* tree, most beautiful, is on the South of the mountain of *Méru*; the fruits of which are *Amrĭtcalpáni*, like those of the *Calpavrĭcsha*, and fall on the summit of the mountain. From this mountain issues the *Jambu* river, flowing with honey: in it is found the gold called *Jámbunada*, with which the Gods are adorned. This flag-like tree is in the Southern part of the *dwípa*, and is called *Jambu* by mankind: from it *Jambudwípa* derives its name.

On the *Vipula* mountain, toward the West, is the *Placsha* tree: from this flag-like tree, or *Cétu*, the country is called *Cetu-Mála*; the Gods, and *Gand'harvas* worship it. On *Supars'va*, in the North, on its summit is a large tree, the *Nyagrod'ha*: its large branches, and their circumference extend many *Yojanas* all round. Thus I have described the flag-like tree of the North, *Curus*. There are the seven *Curavas*, or *Curus*: for *Curava* is a plural form, truly fortunate, and who obtained happiness, unalterable, most exquisite in this world, for a long time: and after them this island or

country was called the seven *Curavas*, or *Curu* simply in the singular number.

This will suffice to give an idea of the geographical turn of the *Hindus*, and I shall leave off, in future, the descriptions of mountains, dales, and lakes, as if viewed through a prism, omitting the enchanting *buzz* of the six-footed *Bhramara*, a beetle, or rather a large black bee, *fucus*, or drone, the names of fragrant flowers, and precious stones, with which the *Hindus* are as much delighted, as children are with the bare names of sweetmeats, and flowers jumbled together.

II. In the description of *Bhadrás'va*, or *China*, as we have observed before, the *Paurán'ics* take peculiar notice, that this extensive country had never been visited by great men, that is to say, by men of learning and respectability. The author then gives an account of the four sacred streams in these words:

Hear now what divine streams issue from the lakes, abundant with *ogha* living waters. The water of the Ocean, coming from heaven upon *Méru*, is like *amrĭta;* and from it arises a river, which, through seven channels, encircles *Méru* for a space of eighty-four *Yojanas*, and then divides into four streams springing over the four sacred hills, toward the four cardinal points. One stream goes over *Mandara* in the East, and encircles the beautiful grove of *Chaitra-rat'ha*, and falls into the *Arun'odá*, or *Arun'a* lake, and goes thence to the mountains of *Sitanta*, *Sumanta*, *Sumanjasa*, *Mádhyavanta*, to *Vaicanca*, *Man'i*, *Rĭshabha*, from hill to hill; then falls to the ground, and waters the country of *Bhadrás'va*, a *Su-mahádwípa*, or beautiful and extensive island, or coun-

try; and then it joins the Eastern Ocean near the *Purva-dwípa*, or Eastern island, called, in other *Purán'as*, the island of *Indra*, and of the rising sun, as implied also in its present *Chinese* name of *Gepuen*, or *Japan*.

The Southern branch goes to *Gand'hamádana*, from hill to hill, from stone to stone; it encircles the forest of *Gand'hamádana*, or *Deva-nandana*, where it is called *Alacanandá*. It goes to the Northern lake, called *Mánasa*, thence to the King of mountains with three summits, thence to the mountains of *Calinga*, *Ruchaca*, *Nishad'ha*, *Jam-rábha*, or copper mountains, *'Swetodara*, *Sumula*, another King of hills, *Vasud'hára*, *Hemacút'a*, *Deva-s'ringa*, *Pisháchaca*, a great mountain, *Panchá-cút'a*, or with five peaks; then to *Cailas'a*, thence to *Himavat*, or snowy range; and then, this *Ma-hábhágá*, or most propitious river, having watered many countries, falls into the Southern Ocean, MAHA'DEVA received it on his own head, from which, spreading all over his body, its waters are become most efficacious. It falls then upon *Himá-chala*, from which it *gangs* its way *upon earth*: hence it is called *Gangá*.

To the West, *apara* is a large river encircling the forests of *Vaibhrájá*: it is *Mahá-bhágá*, most propitious: it falls into the lake *Sitodá*, called by *Persian* authors *Diva-Sáran*: thence it goes to the *Su-Bacsha* mountains, and to the *Purn'oda* lake, or the *Caspian* Sea, to the mountains called *'Sic'hi*, *Canca Vaídúrya*, *Capila Gand'ha-mádana*, *Pinjara*, *Cumuda Mad'humánta*, *Anjana*, *Mucúta Crishna*, *'Sweta* filled with large snakes, to the mountain with 1000 peaks, to the *Párijáta* mountain, through *Cetumála*, a large country, then falls into the Western Ocean. It is the *Chacshu* or *Oxus*.

North from *Méru* there falls a branch called *Bhadrá*, and *Bhadrá-somá* upon *Supars'va* of gold, which it encircles; and goes to the lake called *Sitodacá*, in the forest of *Bhadra-soma*, thence to the mountains of *Sancha-cút'a*, *Vrisha Vatsa*, *Níla*, *Capinjala*, *Indra-níla*, *Mahá-níla*, *Hemas'ringa*, *Swetasringa*, *Sunaga*, to the mountain with an hundred peaks. *Pushcara*, *Dwija-rája*, *Varáha* boar, *Mayura* peacock, to the single peak *Játudhi*; then after corroding a thousand inferior hills, it goes to the mountain with three peaks, to *Vishudd'ha*; then goes into the Northern Ocean. This mountain of *Vatsa* is said by astronomers to be in the same meridian with *Lancá*, and as such is mentioned by several *French* authors, as BAILLI, GENTIL, &c.

Close to the *Gand'hamádana*, along the banks of the *Apara-Gan'dicá*, or Western *Gan'dicá*, is the country of *Cetu-mála*, 34,000 *Yojanas* in length, and 32,000 broad. The *Cetumálas* are mighty in deeds, strong and powerful; the women bright like the *Lotos* flower: and whoever sees them, falls in love with them. There is the great tree *Panasa*, the *Ygdrasil* of the *Edda*, from which flow the sixth juices. There resides IS'WARA, or IS'A, the son of BRAHMA'. The proper name of this country is *Cetu*, which has an obvious affinity with the *Cetüm* of Scripture, a plural form, and in the singular number *Ceti*, and with the *Cetii* of prophane authors.

On the East, in *Bhadrás'va* or *China*, is the *Purva-Gan'dicá*, or Eastern *Gan'dicá*: and the length of its course is the same with that of the *Apara*, or Western one. In the *Varáha-purán'a*, it is said that the course of the *Purva-Gan'dicá* is 1000 *Yojanas*, but that of the *Apara* or Western, is only

400, which is more conformable to truth, as the *Oxus* does not fall into the *Atlantic* Ocean.

The author then gives an account of the countries round *Méru*, as far as the seas surrounding the old continent. He treats first of the *Dron'is*, vallies, or countries situated between ranges of mountains. The *Bráhma*, *Váyu*, and *Brahmán'da-purán'as*, are the most copious on this subject. The mountainous tracts to the North of *India*, are so little known to us, and to the *Hindus* themselves, that I can by no means throw any light upon so extravagant and obscure descriptions of them, as are to be found in these *Purán'as*. I shall of course pass them over, after having taken notice of two curious passages, one relates to the famous mountain of *Cailása* or *Cailas*, the heaven of 'SIVA, and often used by his followers for heaven in general, as *Coilus*, *Coilum*, and *Coila*, by the *Latians*. There resides 'SIVA, called also ARHAN, or URANUS: for 'SIVA, like URANUS, presides over Astronomy.

It is said to be one hundred *yojanas* in length, and fifty broad; and a most extravagant description of it is given in the *Purán'as*. I have conversed with many pilgrims, who had seen this famous mountain, and they uniformly declared to me, that it is only eight or nine miles to the South of the lake of *Rávana*, the *Lanken* of the maps. It is about three coss long, or seven miles, and shaped like a *mandap*, by which they understand a building, like a barn. *Vaicanta*, the heaven of VISHNU, is toward *Assam*; and that of BRAHMA', towards *Tartary*, a considerable way to the North. In the *Váyu-purán'a* we read, that in the Southern vallies with regard to *Méru*, is the immense forest of UDUMBARA, in which is the place of abode of

CARDDAMES'WARA, the eldest son of ADAM. This place they suppose to be in the vast Mediterranean island, in the *Paltze* lake in *Tibet*, a very proper place for him, and also to the Eastward of *Eden*.

But let us pass to the mountains, vallies, and champain countries to the West of *Méru*. It is said, in the *Brahma-purán'a*, that in *Bhadrás'va*, or *China*, VISHNU resides with the countenance and head of a Horse. In *Bhárata*, he has the countenance of a Tortoise: in *Cetu-mála*, or *Europe*, he resides in the shape of a *Varáha*, or *Boar*, and he is described as the chief of a numerous offspring, or followers in that shape. He is then in *Cetu-mála Varáhapa*, or the chief of the *Varáhas*, or Boars; a word to be pronounced according to the idiom of the spoken dialects, *Wárápá*. In *Curu* he has the countenance of a *Matsya*, or fish: and, of course, he is there *Sira-matsya*, or with the head or countenance of a fish. He is probably the CHRADO of the *Goths*, who was represented standing upon a fish in the waters. For the extensive country of *Curu* is declared to be *South* of the Northern Ocean, and *North* of *Méru*, in the *Purán'as*, and particularly in the beginning of the *Brahma-purán'a*. It begins immediately at the foot of the Northernmost range of Hills, a little beyond fifty-two degrees of latitude North, and extends from sea to sea.

III. In the *Váyu-purán'a*, the countries to the West of *Méru* are thus described; and the author begins with the vallies, and champain countries.

There are many vallies and flat grounds to the West of *Méru*, divided by numerous ranges of hills. About the mountains of *Su-bacsha*, the *Becuis* of PTOLEMY, and *'Sic'hi-s'aila* is a level coun-

try about a hundred *yojanas* in extent; and there the ground emits flames. It is a most dismal place, horrid to the sight, inaccessible to mortals: the sight of it, makes the very hair stand. It is the abode of the superior deities. There is VIBHA'-VASU, or VASU simply, who presides over the fire, burning without fuel; he who is the great deity, and there fire seems to have life. When performing holy rites with offerings to the Gods, men always give fire his share. There that very fire, which one day will spread over, and encompass the whole universe, is constantly burning. Within the mountains is the abode of the illustrious and powerful Gods; with the place of the *Mátu-linga*, ten *yojanas* broad, and there is the hermitage of VRÍHASPATI.

Like these two mountains are *Cumuda* and *Anjana:* between these is an extensive valley with a lake. The *Cumuda* range answers to the *Comedi* mountains of PTOLEMY: and the *Anjana*, or black range, to the *Anthema* of *Persian* writers, as I observed before, and there is the *A'yatana*, or abode of VISHNU.

The *st'hán* of VASU is obviously a volcano in the *Al-burz* mountains, and a volcano is really *Vásávàyatana*, or the abode of VASU in a derivative form: and here we have the etymology of *Vesevus*, *Vesuvius*, and *Aitna* or *Ætna*, which words have been improperly divided. Between the great mountains *Crĭshna* and *Pán'dura*, the black and white mountains, is a level country. In it is a *Padminí* land, or marshy ground abounding with *Lotos*. There resides the GOD with a thousand bodies. Mankind call it *Ananta-sada*, or *Anantee-sedes*, the seat of HARI, with the title of *Ananta*. In the middle of the *Cumuda* mountains with a thousand peaks, there is a forest fifty *yojanas* long, and thirty

broad. There is the famous pool of the *Apsárasas;* many holy men live there, and drink of its pure waters.

Between *'Sancu-cút'a,* or the peak like a wooden-pin, and the *Vrishabha* mountains, is the *sthalí,* or country of *Parushaca,* many *yojanas* in length. There live the *Cinnaras, Uragas,* serpents, and holy men.

The tract between the mountains of *Capinjala* and *Nága-s'aila,* is two hundred *yojanas* in length, and one hundred broad, truly delightful, adorned with many groves. It abounds with fruits, and flowers of various sorts. The *Cinnaras,* and *Uragas,* with tribes of pious and good men live there. There are beautiful groves of *Drácshá* or vine trees, *Nága* trees, or *Nága-ránga,* the orange-tree, and plum, or rather stone-fruit trees. It abounds with lakes and pools filled to the brim, with sweet and refreshing waters. What part of it lies between the *Pushpaca* and *Mahá-Megha* mountains, about one hundred *yojanas* long, and sixty broad, is as flat as the palm of the hand, as known to every body, with very little water, which is whitish. The soil is hard, and tenacious, without trees, and even without grass. There are few living creatures: and the few inhabitants are without fixed habitations: this desert is so dreary as to make the traveller's hair stand up. The whole country is called *Cánana,* or *Cánan.* There are several large lakes, likewise great trees, and larger groves, called *Cántá.* The smaller lakes, pools, groves, orchards, producing delightful juices, are numberless. The vallies, depths, lakes, and groves are, some ten, others twelve, seven, eight, twenty, or thirty *yojanas* in circumference. There are caves, in the mountains, most dreary and dark, inaccessible to the rays of the sun, cold, and difficult of access.

In that country are *Sidd'has*, or prophets, with the gift of miracles; learned and famous *Bráhmens*, bright like fire; hundreds of thousands of them are in that country.

It is truly surprising to find so plain, and sensible a description of a country in the *Puráńas:* for the translation is faithful, and I have not left out, as before, any passage on any account whatsoever. It appears to be *Syria* in its largest dimensions, and which the author calls *Cánan;* because the *Cananeans*, and amongst them the *Phœnicians*, were possessed of the greatest and best part of it, and were, moreover, famous all over the East.

The dimensions in *yojanas* in general, must be considerably reduced: but there are particular instances when they must be retained, and such cases are by no means numerous. I have noticed that the description of this country was a plain narrative, which, if not true, bore at least every mark of probability.

The mountains of *Capinjala*, a sort of bird, and *Nága*, or of the Serpents, are unknown: the region between them was 200 *yojanas*, or about 900 miles long, and 100 broad, or about 450 miles. These are the dimensions of *Syria* from *Babylon* to the *Mediterranean* sea. It consisted of two parts, a dreary desert, and the other a most charming and fruitful country, with six or seven lakes, called seas, the largest of which is the *Asphaltite* sea, thirty *yojanas* in circumference, according to Josephus's account.

The *Pauráńics*, in their description of countries, never mention, at least as far as I can recollect,

the vine, and plum, or olive tree, nor the *Nága-ránga*, or orange tree, unless we are to understand the latter of trees, bearing golden apples. The larger lakes, the numberless pools, the caves in the mountains, the abundance of vineyards and orchards filled with orange and olive trees, is perfectly correct, as well as the description of the desert, with its scanty waters of a whitish colour, and a few inhabitants, without any fixed habitations, is literally true. The numerous and learned *Levites*, who were really *Bráhmens*, the *Sidd'has* or prophets working miracles, are certainly wonderful circumstances.

The *Cinnaras* may be the inhabitants of the country of *Cinnereth*, round the lake of the same name with the town of *Cinnereth*. The tribe of *Uragas*, or serpents, were probably the *Hivites*, whose name implies the same thing. *Vadari* signifies a plum tree, but, in general, a stone-fruit tree; and is, of course, applicable to the olive tree, for which, I believe, there is no name in *Sanscrit*. It is not understood here of the date tree, for which there is a name in that language.

This curious passage proves the existence of an early intercourse between the *Hindus* with the inhabitants of the more Western countries, and particularly the *Israelites*. I shall show, in the course of this work, that such an intercourse existed formerly: and LUCIAN takes a particular notice of the *Hindus* visiting holy places in *Syria*, such as the *st'hán* of *Mahá-bhága-deví*, called *Bombyce*, and now *Manbeg*. This, in my humble opinion, explains an obscure passage of the prophet ISAIAH, who lived in the eighth century before CHRIST *:

* ISAIAH, chap. ii. v. 6.—See also Bishop LOWTH on ISAIAH.

"Verily thou hast forsaken thy people, the house "of JACOB; because they are filled with DIVINERS "from the EAST, from *more than* or *beyond* the "EAST; who are soothsayers like those of the "*Philistines;* and they delight in the society of "children of strangers." This passage I conceive to allude to *Hindus*, from the very forcible expression of *from the East, from beyond the East*, or *from the remotest parts of the East.* The prophet did not mean the *Chaldeans*, who were well known to him, as he repeatedly takes notice of them.

IV. The next mountains are those of *Sitánta*, many *yojanas* in extent, abounding with all sorts of metals and gems. It is skirted by a most delightful country, well watered, enlivened with the harmonious noise of the black bee and frogs. There are towns with gates: and the refreshing moisture of this country, proceeds from *Urupa*, or the Lord of the *Zodiac;* and re-uniting together, forms a stream, called the *Vahá* of the Moon, or *Chan'dra-vahá.* There live the *Sidd'has* and *Yacshas*, in caves, with intricate but delightful mazes. There, among immense caves, is the *Crídávana*, or place of dalliance of MAHENDRA, where knowledge and the completion of our wishes is fully obtained. There is the great forest of the *Párijáta* tree, of the kings of the Gods, known through the three worlds: and the whole world sings his praise from the *Védas:* such is the place of dalliance of him with 1000 eyes, or INDRA.

One side is *Suvarn'a* of gold, as implied by its name, full of hills of the purest gems and corals. In this charming grove of 'SACRA, or INDRA, the Gods, the *Dánavas*, the snakes, *Yacshas*, *Rácshasas*, *Guhya*, or *Cuveras*, *Gand'harvas*, *Vidyád'haras* live happy, as well as numerous tribes of *Apsarásas*, fond of sport.

To the East of this lord of mountains is *Cumula*, a peak, with eight towns of the proud *Dánavas*. In the mountains of *Vajracá*, with many peaks, live *Rácshasas*, frightful, assuming whatever countenance they please, strong, and performing wonderful achievements: these *Rácshasas* are called *Nílacas*.

In *Mahá-Níla*, or the great blue range, are fifteen towns belonging to the *Hayánana*, or *As'vamuc'ha*, or horse-faced tribe, probably the *Parthians*, and the descendants of *Torgama*, who bred horses, and carried them to the principal fairs in the East. In *Sanscrit*, *Turangama*, perhaps the same with *Thorgama*, for thus *Thogarma* is also written, signifies a horse, and implicitly a horseman: and the *Hindus* derive from it the appellation of *Turcoman*. They are originally *Cinnaras*, courageous like the leader of the armies of the Gods; CA'RTICE'YA, with large hands, and strong like the *Indrádicas*. There are fifteen chiefs of the *Cinnaras*, elated with pride. There in towns, under ground, like *Bámíyan*, live people like snakes; no man can look them in the face, and meet their eyes: their looks are like fire, like the poison of serpents. These live upon the golden *stamina* of certain flowers. In the hills there are above a thousand abodes of *Daityas*: the houses are elegant, like high-embattled forts.

In *Ven'u-manta*, or *Ven'uman*, are three forts belonging to the *Vidyád'haras*, thirty *yojanas* long, and twenty-five broad. These belong to the *Ulucas*, the *Romashas*, or *Romacas*, and the *Mahánetras*. These rank among the greatest of the *Vidyád'haras*, and whose mighty deeds equal those of INDRA. The country of *Ven'umanta* is one hundred and forty miles long, and about sixty broad:

in it there are three strong fortified places, held at the same time by the three most powerful nations then existing. The *Romashas*, or *Romacas*, are the *Romans*, called *Romaicoi* in *Greek*, and often mentioned in the *Purán'as* and other books of the *Hindus*, but only in general terms. The *Ulucas* are the *'Sacas*, called also *Bolga*, *Volcæ*, and *Wolkæ;* these were probably the *Parthians*. The *Mahá-netra*, or with large eyes, are probably the *Armenians:* and it was in the first century, that these three powerful nations were thus brought in contact, on the borders of *Syria*, *Armenia*, and *Persia*, in a country bordering upon the lake *Van*, thus called from a town of the same name, which in the *Armenian* language signifies a fortified place. *Har-Minni*, or *Har-Minnith*, signifies the mountains of *Minnith*, or *Armenia*, and *Vani-minnith*, or *Vanni-minni*, the strong holds of *Ar-minni*, *Armona*, *Armana*, or *Armenia:* for thus its name is variously written.

In the *Brahmán'da* it is declared, that in the country of *Cus'a*, including *Iran*, *Syria*, and *Arabia*, is the *Camudvatí*, or *Euphrates*, with the *Cumuda* mountains; from which *Cus'a* is also denominated the *dwípa*, or country of *Cumuda*. There live the *'Sacas*, a powerful nation: the *Párasicas* remarkable for their beauty, and the *'Syámacas* seemingly thus called from their black complexion. These were subdued by RAGHU: and in the book of his wars, a few remarkable circumstances relating to that extensive country, occur occasionally. Otherwise the *Párasicas*, or natives of *Párasa*, or *Persia*, are seldom noticed by the *Paurán'ics*. In *Cumuda* is the *Cumudvatí* river, and the *st'hán* of MAHA'-BHA'GA-DEVI', the sister of MAHA'-DEVA. Of this famous place, I took particular notice in my Essay on *Semiramis*, under the name of *Mabog* and *Manbeg*.

On *Vaicana* resides the offspring of GARUD'A, the destroyer of serpents: it abounds with metals and precious stones. A strong and turbulent wind swiftly passes over this mountain, in a human form, called *Sugríva*. The offspring of PUNNA'-GA'RI', or GARUD'A, in the shape of birds, fly about this mountain: they are strong, fly quickly, and mighty are their achievements. On *Caraja* always resides the mighty lord of living beings, who manifests himself there to human sight, the great GOD riding upon a Bull, *hence* called VRÍSHA-BHA'NCA-SANCARA, the chief of *Yogis*. The inhabitants, like MAHA'-DEVA, always carry poison about them: they are *Pramat'has*, or servants of MAHA'-DEVA, and difficult of access. MAHA'-DEVA resides there among them.

On *Vasu-d'hára* in *Vasumati*, a mountain and country full of fire, as implied by their names, are the *st'háns*, or places of the eight forms of MAHA'-DEVA, the merciful GOD. They are full of resplendence, and proper places of worship. There are seven *st'háns* of *Sidd'has:* and the *st'hán* of BRAHMA' with four faces, the mighty lord of created beings, on a high peak: all living creatures bow to it. The eleven *Rudras* reside there, on the *Gaja-s'aila*, or elephant mountain.

Su-Megha is full of metals, a king of mountains it is, like the clouds *Megha*, with many caves in its bosom, and arbours in its skirts. It is the *A'yatanan*, or place of abode of the twelve Suns, and of the eight forms of *Rudra*. There also the *st'háns* of VISHNU, and the *As'winau* or *Dioscuri*, with many belonging to the *Sidd'has* and Gods. There the *Yacshas*, *Gand'harvas*, and *Cinnaras*, probably priests and minstrels, are constantly performing the *puja*. In the bosom of this mountain,

are famous and large cities of the *Gand'harvas*, resplendent like *Amara-puri*, with large forts well embattled, in which reside the *Sidd'has*, and *Gand'harvas* deeply skilled in war, with their king CAPINJALA, God and king of kings. From him these are called the *Capinjala* mountains, of which I took notice before.

On *Anala*, a fire mountain also, reside tribes of *Rácshasas*, or evil spirits with a human body, on this mountain with five peaks, with the *Dánavas*, proud, enemies of the Gods, great, strong, and of mighty deeds. These *Dánavas* are perhaps the *Greeks*, the offspring of DANAUS.

On *'Sata-s'rínga*, or with one hundred peaks, reside the *Yacshas*, a benevolent tribe. On *Tamrabha*, or the copper mountain, is a town inhabited by the *Cádraveyas*, or children of CADRU, the wife of CA'S'YAPA, and by *Tacshacas*, a serpentine tribe of artists.

In the great and beautiful *Vis'ácac'ha* are many caves in its skirts: it is the famous place of abode of the God, who always dwells in caves, CA'RTICEY'A, or MARS. On *'Swetodara*, or with a white belly, is a large town, and settlement of the beneficent SUNA'BHA, the son of GARUD'A.

On the large mountain of *Paisáchaca*, is a settlement of the *Cuveras*, (called also *Cuberas* and *Guhyas*, and the same with the *Cabirian* tribes,) with a commodious palace, resorted to by the *Yacshas* and *Gand'harvas*. On *Hari-cút'a* resides the God HARI, to whom all the world bows: the famous navel of this most resplendent mountain is remarkable for its splendour.

On *Cumuda* reside the *Cinnaras:* on *Anjana* the great Snakes: on *Crishna* are the towns of the *Gand'harvas* with large houses.

On *Pándura*, on a beautiful peak, is the town of *Vidyádhara*, well fortified, and a large palace with battlements.

On the mountain with a thousand peaks, reside the *Daityas* and *Dánavas* in a thousand towns. They are all shining with gold, and their voice is most melodious.

On *Sucúta* reside the chiefs of the *Pannágas*, or great Snakes: and on *Pushpaca* many tribes of *Munis*. On *Supacsha*, or *Subacsha*, are the four mansions of VAIVASWATA, or NOAH, of the Moon, of VAYU, and NA'GA'D'HIPA', or King of Serpents. The *Gand'harvas*, *Cinnaras*, *Yacshas*, *Nágas* and *Vidyád'haras*, and their chiefs, are constantly worshipping their ISHTA, or favourite deity.

The place of VAIVASWATA, or MAITLAM, is near *Cabul*, in the country of *Lampacam*, as it is called in the *Purán'as*, and *Lamgam*, by the natives. Of this place, I took particular notice in my Essay on mount *Caucasus*.

V. In this *Purán'a*, the author, whilst describing the mountains to the South, and South-West of *Méru*, mentions a circumstance truly curious and interesting. Here, says he, in the forest of *S'anc'ha* was born SHADA'NANA, or CA'RTICE'YA, MARS with six faces. Here he wished, or formed the resolution of going to the mountains of *Craun-cha*, *Germany*, part of *Poland*, &c. to rest, and recreate himself after his fatigues in the wars of the Gods with the giants. There, in the skirts of

the mountains of *Crauncha*, he flung his sword, the very same which ATTILA, in the fifth century, asserted he had found under a clod of earth. It was placed in his tomb, where it is probably to be found.

In the *Devi-Purán'a*, it is declared, that DEVI' in her character of JAYA-DEVI', or goddess of victory, is worshipped in the *dwípa* of *Crauncha*, under the emblem of a sword.

The rest of the more Western countries is neglected by the compiler, as they are described in other paragraphs, under the names of *dwípas* or countries of *Placsha*, *S'álmali*, *Crauncha S'ácam*, and *Pushcara*. He takes particular notice of a singular region in *S'almali*, called the peak-land of the Gods.

Hear now: in *Deva-cút'a*, or peak-land of the Gods, which is a mountain dividing, parting countries, or, in other words, a long and extensive range, is this place where GARU'DA, the son of VINATA', was born; which is also his *D'háma-domus* home, on a broad peak of this great range, with a beautiful palace. This country is one hundred *yojanas* in circumference, or about four hundred and ninety miles. There resides the numerous offspring of GARU'DA, in the shape of large birds, *and of men also* swiftly flying, strong, ruling all over the country, and full of pride. This is the first mansion of the lord of birds, generous and merciful, swift like the stormy wind, and who resides in the *dwípa* of *S'álmali*. It is toward the South on one of the peaks of this mountain, conspicuous, full of wealth, beautiful, seven in number, bright like the morning and evening skies, with forts of silver, well embattled, adorned with chaplets of houses made by the Gods, forty *yojanas*

long, two hundred miles, and thirty broad, one hundred and fifty miles. These are called the seven towns of the *Gand'harvas*, full of men and women. This is a peculiar tribe of the *Gand'harvas*, called *Agneyas*, fire-men, or rather artificers by fire, very strong, and of mighty deeds. They are the servants of the *Cuveras*, or *Guhyas*, whose principal employment is to explore the bowels of the earth in search of wealth. The rest of this curious description will be hereafter the subject of a particular section.

Before we pass to the second part, it will be requisite to give some explanation of the accompanying Plates:

No. I, represents the worldly *Lotos*, floating upon the waters of the Ocean, which is surrounded, and its waters prevented from falling into the *vacuum* by the *Suvarn'a-bhúmi*, or land of gold, and the mountains of *Locálocas*.

No. II, represents the globe of the Earth, according to the *Hindu* astronomers. It is projected upon the plane of the equator, and the Southern hemisphere expanded in such a manner, that the South pole, instead of a point, becomes the largest circle of this projection. They also represent the two hemispheres, separately upon the plane of the equator.

No. III, represents the same, projected upon the plane of a meridian. These two projections are against the tenor of the context of the *Purán'as:* a Southern hemisphere being then absolutely unknown.

Here I have placed the three ranges of mountains, according to the documents of *Hindu* astronomers: but not according to their usual delineations: for, according to these, the three ranges should be represented by three concentric half circles, parallel to the meridians of the projection. It is acknowledged, that these ranges are in the direction of as many parallels of latitude. In that case the outermost ranges must be the longest: and this is the opinion of the *Jainas*, as I observed before, in the sixth paragraph of the first chapter.

No. IV, exhibits the old Continent, projected upon an imaginary circle passing through the North pole, and just grazing the equator in the South. Instead of a circle, it should be an oval, with the longest diameter East and West. But as the tracing of an oval would be attended with some difficulty, the indolent *Pauránics* have adopted the circle in its room; and seldom use the other. As such a delineation would be useless, I have, of course, omitted it.

The chasm in the North-West, through the mountains surrounding the world, was made by Crĭshna, when he went to see his prototype Vishnu, or the great spirit, the *Paramátmá* of the world, whose abode is among waters, in the land of darkness. Several heroes have passed since through this chasm, which will be the subject of a particular paragraph hereafter.

No. V, explains the true system of the known world, according to the *Puránas*, and the *Jainas*, reconciled with that of the astronomers of *India*.

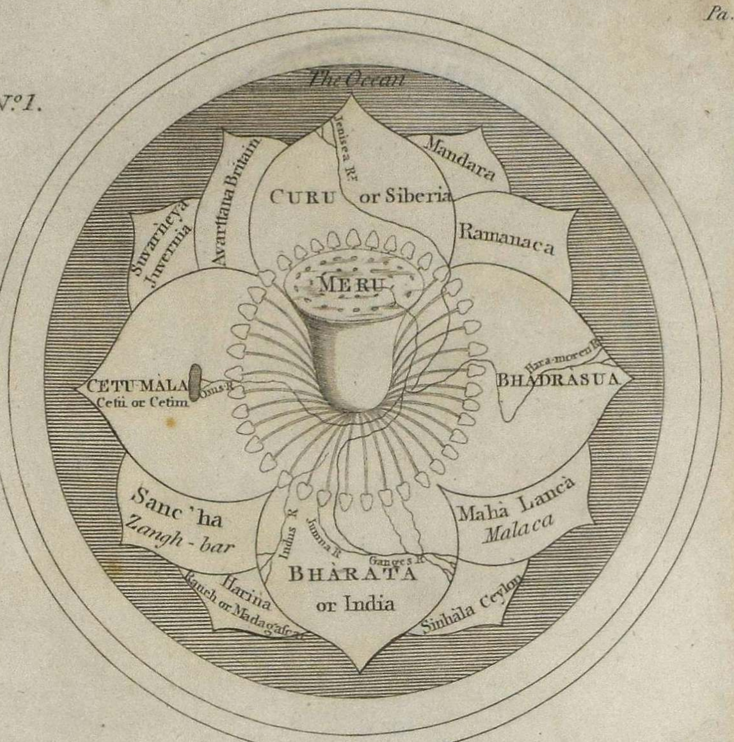
Here the *Méru* of the *Pauránics* is brought back to its proper place, whilst the *Méru* of the astro-

nomers remains under the North pole. The zones between *Jambu* or *India*, and the *Méru* of the astronomers, are obviously our seven climates; and the points where the astronomical zones intersect the zones of the *Pauránics* round their respective centres equally called *Méru*, shew the true situation of the *dwípas* or countries, from which these zones, according to the system either of the astronomers or of the *Pauránics*, are equally denominated, whether they are reckoned relatively to the North pole, or to a centrical point in the elevated plains of *Tartary*.

No. VI, is a delineation of the country of *Bhárata*, in the fullest acceptation of that denomination. Its nine divisions with *Curu*, or *Siberia*, and the Northern parts of *Europe*, making in all ten districts, were all destroyed by a violent storm, and inundation, except one. Thus the ten divisions of the *Atlantis* were all destroyed by a flood, except one, called *Gades*, which probably included *Spain*.

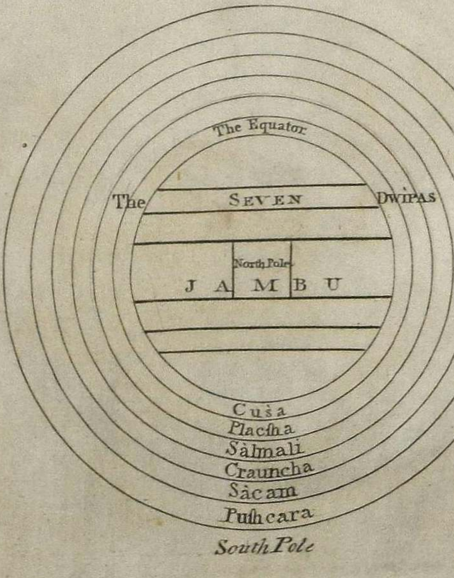
Some also are of opinion, that, out of the seven *dwípas*, six were likewise overwhelmed by a flood. This circumstance is also noticed in the third volume of the *Ayín-Acberi*. But I believe that this notion originated with the *Puránicas*, who, unable to point out these wonderful countries, described in so extravagant a manner in their sacred books, found that the best way was to swear, that they had disappeared.

No. 1.

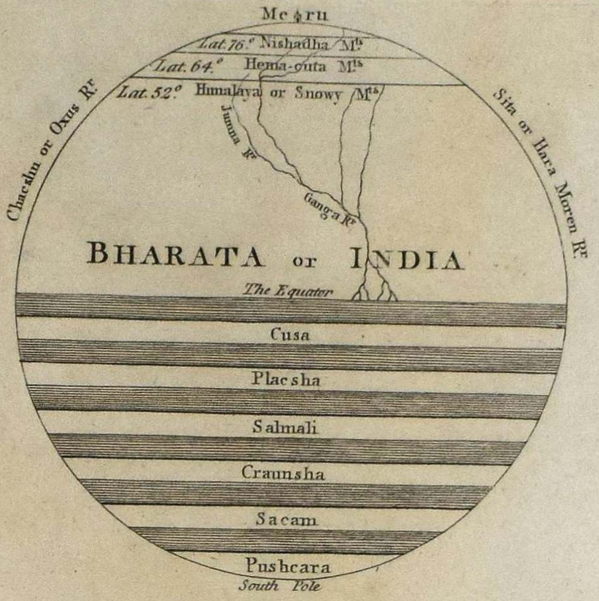


The Worldly LOTOS.

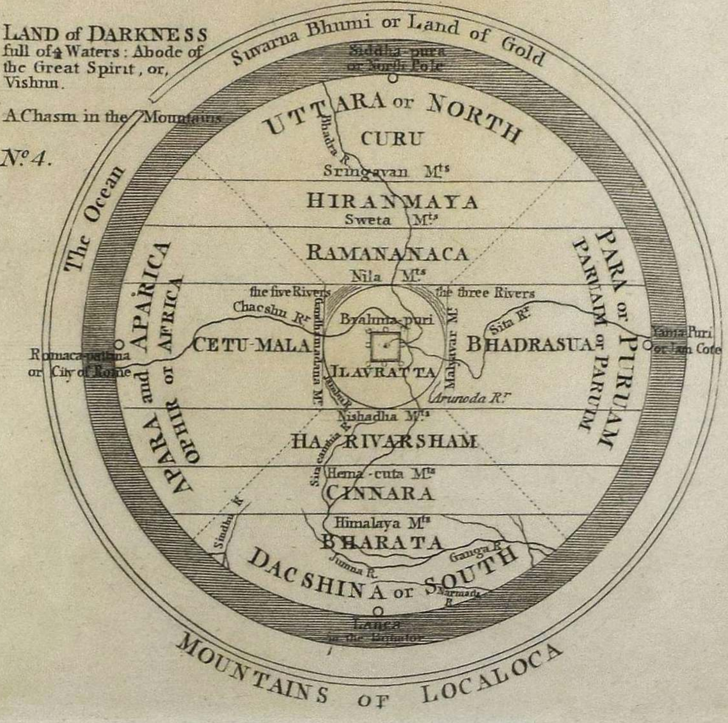
No. 2



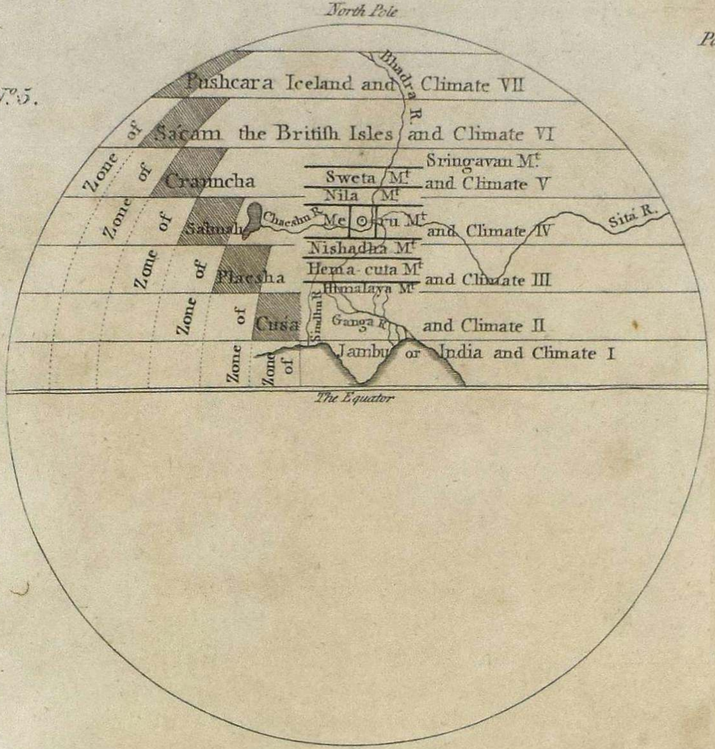
Nº 3.


Meru
Lat. 76.º Nishadha Mts
Lat. 64.º Hema-cuta Mts
Lat. 52.º Himalaya or Snowy Mts
Chacshu or Oxus Rr
Sita or Hara Moren Rr
Jumna Rr
Ganga Rr
BHARATA or INDIA
The Equator
Cusa
Placsha
Salmali
Craunsha
Sacam
Pushcara
South Pole

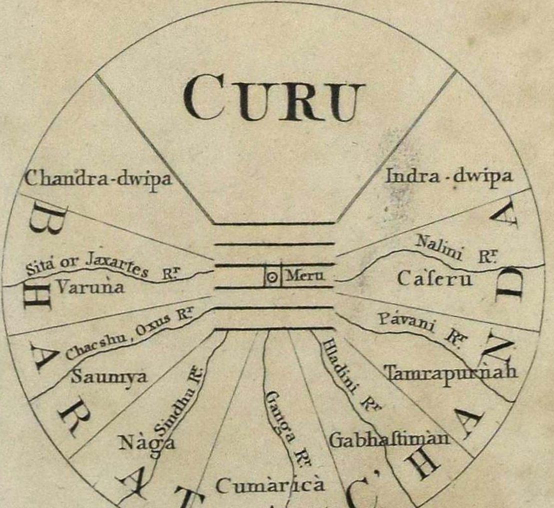
Nº 4.


LAND of DARKNESS full of Waters: Abode of the Great Spirit, or, Vishnu.
A Chasm in the Mountains
Suvarna Bhumi or Land of Gold
The Ocean
UTTARA or NORTH
CURU
Sringavan Mts
HIRANMAYA
Sweta Mts
RAMANANACA
Nila Mts
the five Rivers
the three Rivers
Chacshu Rr
Sita Rr
Brahma-puri
CETU-MALA
ILAVRATTA
BHADRASUA
Arunoda Rr
APARA and APARICA
OPHIR or AFRICA
PARA or PURUAM
PARUAM or PARUM
Nishadha Mts
HARIVARSHAM
Hema-cuta Mts
CINNARA
Himalaya Mts
BHARATA
Jumna R.
Ganga R.
DACSHINA or SOUTH
MOUNTAINS OF LOCALOCA

No. 5.


North Pole
Pushcara Iceland and Climate VII
Sacam the British Isles and Climate VI
Sringavan Mt
Sweta Mt
and Climate V
Nila Mt
Craumcha
Chacshu R.
Me ru Mt
and Climate IV
Sita R.
Salmali
Nishadha Mt
Hema-cuta Mt
and Climate III
Placsha
Himalaya Mt
Cusa
Ganga R.
Sindhu R.
and Climate II
Jambu or India and Climate I
Zone of
Bhadra R.
The Equator

No. 6.


CURU
Chandra-dwipa
Indra-dwipa
Nalini Rr.
Sita or Jaxartes Rr.
Varuna
Meru
Caseru
Chacshu, Oxus Rr.
Pavani Rr.
Saumya
Tamrapurnah
Sindhu Rr.
Ganga Rr.
Hladini Rr.
Naga
Gabhastiman
Cumarica
BHARATA-C'HANDA

VIII.

On the VE'DAS, *or* SACRED WRITINGS *of the* Hindus.

BY H. T. COLEBROOKE, ESQ.

IN the early progress of researches into *Indian* literature, it was doubted, whether the *Védas* were extant; or, if portions of them were still preserved, whether any person, however learned in other respects, might be capable of understanding their obsolete dialect. It was believed too, that, if a *Bráhman'a* really possessed the *Indian* scriptures, his religious prejudices would nevertheless prevent his imparting the holy knowledge to any, but a regenerate *Hindu*. These notions, supported by popular tales, were cherished long after the *Védas* had been communicated to DA'RA' SHUCOH; and parts of them translated into the *Persian* language, by him, or for his use*. The doubts were not finally abandoned, until Colonel POLIER obtained from *Jeyepúr* a transcript of what purported to be a complete copy of the *Védas*, and which he deposited in the *British* Museum. About the same time, Sir ROBERT CHAMBERS collected, at *Benares*, numerous fragments of the *Indian* scripture: General MARTINE, at a later period, obtained copies of some parts of it: and Sir WILLIAM JONES was successful in procuring valuable portions of the *Védas*, and in translating several cu-

* EXTRACTS have also been translated into the *Hindí* language: but it does not appear, upon what occasion this version into the vulgar dialect was made.

rious passages from one of them *. I have been still more fortunate in collecting at *Benares*, the text and commentary of a large portion of these celebrated books; and, without waiting to examine them more completely, than has been yet practicable, I shall here attempt to give a brief explanation of what they chiefly contain.

It is well known, that the original *Véda* is believed, by *Hindus*, to have been revealed by BRAHMA'; and to have been preserved by tradition, until it was arranged in its present order by a sage, who thence obtained the surname of VYA'SA, or VE'DAVYA'SA; that is, compiler of the *Védas*. He distributed the *Indian* scripture into four parts, which are severally entitled *Rich*, *Yajush*, *Sáman*, and *'At'harvaṅa*; and each of which bears the common denomination of *Véda*.

Mr. WILKINS and Sir WILLIAM JONES were led, by the consideration of several remarkable passages, to suspect, that the fourth is more modern than the other three. It is certain, that MENU, like others among the *Indian* lawgivers, always speaks of three only, and has barely alluded to the *'At'harvaṅa* †, without however terming it a *Véda*. Passages of the *Indian* scripture itself seem to support the inference: for the fourth *Véda* is not mentioned in the passage, cited by me in a former essay ‡, from the white *Yajush* ‖; nor in the following text,

* See Preface to MENU, page vi. and the Works of Sir WILLIAM JONES, Vol. VI.

† MENU, chap 11, v. 33.

‡ Essay Second, on Religious Ceremonies. See *Asiatic* Researches, Vol. VII. page 251.

‖ From the 31st chapter; which, together with the preceding chapter (30th), relates to the *Purushaméd'ha*, a type of the allegorical immolation of NARA'YAN'A, or of BRAHMA in that character.

quoted from the *Indian* scripture by the commentator of the *Rĭch.*

"The *Rĭgvéda* originated from fire; the *Yajur-*
"*véda* from air; and the *Sámavéda*, from the
"sun*."

Arguments in support of this opinion might be drawn even from popular dictionaries; for AMERASINHA notices only three *Védas*, and mentions the *'At'harvan'a* without giving it the same denomination. It is, however, probable, that some portion at least of the *'At'harvan'a* is as ancient as the compilation of the three others; and its name, like theirs, is anterior to VYA'SA's arrangement of them: but the same must be admitted in regard to the *Itihása* and *Purán'as*, which constitute a fifth *Véda*, as the *'At'harvan'a* does a fourth.

It would indeed be vain to quote in proof of this point, the *Purán'as* themselves, which always enumerate four *Védas;* and state the *Itihása* and *Purán'as* as a fifth: since the antiquity of some, among the *Purán'as* now extant, is more than questionable; and the authenticity of any one, in particular, does not appear to be as yet sufficiently established. It would be as useless to cite the *Mán'dúca* and *Tápaníya Upanishads*, in which the *'At'harva-veda* is enumerated among the scriptures, and in one of which the number of four *Védas* is expressly affirmed: for both these *Upanishads* ap-

* MENU alludes to this fabulous origin of the *Védas*, (chap. 1, v. 23). His commentator, ME'D'HA'TIT'HI, explains it by remarking, that the *Rigvéda* opens with a hymn to fire; and the *Yajurvéda*, with one, in which air is mentioned. But CULLU'CA-BHAT'T'A has recourse to the renovations of the universe. 'In one *Calpa*, the *Védas* proceeded from fire, air, and the sun; in another, from BRAHMA', at his allegorical immolation.

pertain to the *'At'harvan'a* itself. The mention of the sage AT'HARVAN in various places, throughout the *Védas* *, proves nothing: and even a text of the *Yajurvéda* †, where he is named in contrast with the *Rich*, *Yajush*, and *Sáman*, and their supplement or *Bráhman'a*, is not decisive. But a very unexceptionable passage may be adduced, which the commentator of the *Rich* has quoted, for a different purpose, from the *Ch'hándógya Upanishad*, a portion of the *Sáman*. In it, NA'REDA, having solicited instruction from SANATCUMA'RA, and being interrogated by him, as to the extent of his previous knowledge, says, 'I have learnt the *Rigvéda*, the *Yajurvéda*, the *Sámavéda*, the *'At'harvan'a*, [which is] the fourth, the *Itihása* and *Purán'a*, [which are] a fifth, and [grammar, or] the *Véda* of *Vedas*, the obsequies of the manes, the art of computation, the knowledge of omens, the revolutions of periods, the intention of speech [or art of reasoning], the maxims of ethicks, the divine science [or construction of scripture], the sciences appendant on holy writ [or accentuation, prosody, and religious rites], the adjuration of spirits, the art of the soldier, the science of astronomy, the charming of serpents, the science of demigods [or music and mechanical arts]: all this have I studied; yet do I only know the text, and have no knowledge of the soul ‡.'

---

* Vide *Védas* passim.

† In the *Taittiríya Upanishad*.

‡ *Ch'hándógya Upanishad*, ch. 7, § 1. I insert the whole passage, because it contains an ample enumeration of the sciences. The names, by which grammar and the rest are indicated in the original text, are obscure; but the annotations of SANCARA explain them.

This, like any other portion of a *Véda* where it is itself named, (for a few other instances occur;) must of course be more modern than another part, to which the name had been previously

From this, compared with other passages of less authority, and with the received notions of the *Hindus* themselves, it appears, that the *Rĭch*, *Yajush*, and *Sáman*, are the three principal portions of the *Véda;* that the *'At'harvan'a* is commonly admitted as a fourth; and that divers mythological poems, entitled *Itihása* and *Purán'as*, are reckoned a supplement to the scripture, and, as such, constitute a fifth *Véda**.

The true reason, why the three first *Védas* are often mentioned without any notice of the fourth, must be sought, not in their different origin and antiquity; but in the difference of their use and purport. Prayers, employed at solemn rites, called *Yajnyas*, have been placed in the three principal *Védas:* those, which are in prose, are named *Yajush;* such, as are in metre, are denominated *Rĭch;* and some, which are intended to be chanted, are called *Sáman:* and these names, as distinguishing different portions of the *Védas*, are anterior to

assigned. It will hereafter be shown, that the *Védas* are a compilation of prayers, called *mantras;* with a collection of precepts and maxims, entitled *Bráhmana;* from which last portion, the *Upanishad* is extracted. The prayers are properly the *Védas*, and apparently preceded the *Bráhmana*.

* When the study of the *Indian* scriptures was more general than at present, especially among the *Bráhman'as* of *Canyacubja*, learned priests derived titles from the number of *Védas*, with which they were conversant. Since every priest was bound to study one *Véda*, no title was derived from the fulfilment of that duty; but a person, who had studied two *Védas*, was surnamed *Dwivédi;* one, who was conversant with three, *Trivédi;* and one, versed in four, *Chaturvédi:* as the mythological poems were only figuratively called a *Véda*, no distinction appears to have been derived from a knowledge of them, in addition to the four scriptures. The titles, abovementioned, have become the surnames of families among the *Bráhmens* of *Canój*, and are corrupted by vulgar pronunciation into *Dóbé*, *Tiwárí*, and *Chaubé*.

their separation in VYA'SA's compilation. But the *'At'harvańa*, not being used at the religious ceremonies above-mentioned, and containing prayers employed at lustrations, at rites conciliating the deities, and as imprecations on enemies, is essentially different from the other *Védas*; as is remarked by the author of an elementary treatise on the classification of the *Indian* sciences *.

But different schools of priests have admitted some variations in works which appear under the same title. This circumstance is accounted for by the commentators on the *Védas*, who relate the following story taken from *Purán'as*, and other authorities. VYA'SA, having compiled and arranged the scriptures, theogonies, and mythological poems, taught the several *Védas* to as many disciples: viz. the *Rich* to PAILA; the *Yajush* to VAIS'AMPA'YANA, and the *Sáman* to JAIMINI; as also the *'At'harvańa* to SUMANTU, and the *Itihása* and *Purán'as* to SU'TA. These disciples instructed their respective pupils, who, becoming teachers in their turn, communicated the knowledge to their own disciples; until, at length, in the progress of successive instruction, so great variations crept into the text, or into the manner of reading and reciting it, and into the no less sacred precepts for its use and application, that eleven hundred different schools of scriptural knowledge arose.

The several *Sanhitás*, or collections of prayers in each *Véda*, as received in these numerous schools, or variations, more or less considerable, admitted by them either in the arrangement of the whole text (including prayers and precepts), or in regard to particular portions of it, constituted the *Sác'has*

* MAD'HUSU'DANA SARASWATI', in the *Prast'hánabhéda*.

or branches of each *Véda*. Tradition, preserved in the *Purán'as*, reckons sixteen *Sanhitás* of the *Rigvéda*; eighty-six of the *Yajush*; or, including those which branched from a second revelation of this *Véda*, a hundred and one; and not less than a thousand of the *Sámavédá*; besides nine of the *'At'harvan'a*. But treatises on the study of the *Véda* reduce the *Sác'has* of the *Rich*, to five; and those of the *Yajush*, including both revelations of it, to eighty-six*.

The progress, by which (to use the language of the *Purán'as*) the tree of science put forth its numerous branches, is thus related. PAILA taught the *Rigvéda*, or *Bahvrich*, to two disciples, BAHCALA and INDRAPRAMATI. The first, also called *Bahcali*, was the editor of a *Sanhitá*, or collection of prayers; and a *'Sác'ha*, bearing his name, still subsists: it is said to have first branched into four schools; afterwards into three others. INDRAPRAMATI communicated his knowledge to his own son MAN'DUCE'YA, by whom a *Sanhitá* was compiled: and from whom one of the *'Sác'hás* has derived its name. VE'DAMITRA, surnamed S'A'CALYA, studied under the same teacher, and gave a complete collection of prayers: it is still extant; but is said to have given origin to five varied editions of the same text. The two other and principal *'Sác'hás* of the *Rich* are those of AS'WALA'YANA and SA'NC'HYA'YANA, or, perhaps, CAUSHI'TACI': but the *Vishn'upurán'a* omits them, and intimates, that SA'CAPU'RN'I, a pupil of INDRAPRAMATI, gave the third varied edition from this teacher, and was also the author of the *Niructa*: if

* The authorities on which this is stated, are chiefly the *Vishnu purán'a*, part 3, chap. 4, and the *Vijeyavilása* on the study of scripture; also, the *Charan'avyúha*, on the *Sác'hás* of the *Védas*.

so, he is the same with YA'SCA. His school seems to have been subdivided by the formation of three others derived from his disciples.

The *Yajush*, or *Ad'hwaryu*, consists of two different *Védas*, which have separately branched out into various 'Sac'hás. To explain the names, by which both are distinguished, it is necessary to notice a legend, which is gravely related in the *Purán'as*, and in the commentaries on the *Véda*.

The *Yajush*, in its original form, was at first taught by VAIS'AMPA'YANA, to twenty-seven pupils. At this time, having instructed YA'JNYAWALCYA, he appointed him to teach the *Véda* to other disciples. Being afterwards offended by the refusal of YA'JNYAWALCYA to take on himself a share of the sin incurred by VAIS'AMPA'YANA, who had unintentionally killed his own sister's son, the resentful preceptor bade YA'JNYAWALCYA relinquish the science, which he had learnt*. He instantly disgorged it in a tangible form. The rest of VAIS'AMPA'YANA's disciples, receiving his commands to pick up the disgorged *Véda*, assumed the form of partridges, and swallowed these texts which were soiled, and, for this reason, termed "black:" they are also denominated *Taittiríya*, from *tittiri*, the name for a partridge.

YA'JNYAWALCYA, overwhelmed with sorrow, had recourse to the sun; and, through the favour of that luminary, obtained a new revelation of the *Yajush*; which is called "white," or pure, in contradistinction to the other, and is likewise named *Vájasanéyi*, from a patronymick, as it should

* The *Vishnu purán'a*, part 3, chap. 5. A different motive of resentment is assigned by others.

seem, of YA'JNYAWALCYA himself: for the *Véda* declares, 'these pure texts, revealed by the sun, are published by YA'JNYAWALCYA, the offspring of VA'JASANI *.' But, according to the *Vishn'u purán'a* (3. 5. ad finem), the priests, who studied the *Yajush*, are called *Vájins*, because the sun, who revealed it, assumed the form of a Horse (*Vájin*).

I have cited this absurd legend, because it is referred to by the commentators on the white *Yajush*. But I have yet found no allusion to it in the *Véda* itself, nor in the explanatory table of contents. On the contrary, the index of the black *Yajush* gives a different and more rational account. VAI-S'AMPA'YANA, according to this authority †, taught the *Yajurvéda* to YA'SCA, who instructed TITTIRI ‡: from him UC'HA received it, and communicated it to A'TRE'YA: who framed the *'Sác'há*, which is named after him; and for which that Index is arranged.

The white *Yajush* was taught by YA'JNYAWALCYA to fifteen pupils, who founded as many schools. The most remarkable of which are the *'Sác'hás* of CANWA and MADHYANDINA; and, next to them, those of the *Jábálas*, *Baud'háyanas*, and *Tápaníyas*. The other branches of the *Yajush* seem to have

---

* *Vrihad Aranyaca* ad calcem. The passage is cited by the commentator on the *Rigveda*. In the index likewise, YA'JNYAWALCYA is stated to have received the revelation from the sun.

† *Cánd'ánucrama*, verse 25. This index indicatorius is formed for the *'Atréyí S'ác'há*. Its author is CUN'DINA, if the text (verse 27) be rightly interpreted.

‡ This agrees with the etymology of the word *Taittiríya*; for, according to grammarians (see *Pánini* 4. iii. 102), the derivative here implies 'recited by *Tittiri*, though composed by a different person.' A similar explanation is given by commentators on the *Upanishads*.

been arranged in several classes. Thus the *Characas*, or students of a *S'ác'há*, so denominated from the teacher of it, CHARACA, are stated as including ten subdivisions; among which are the *Cat'has*, or disciples of CAT'HA, a pupil of VAIS'AMPA'YANA; as also the *'Swétás'-wàtaras*, *Aupamanyavas*, and *Maitráyaníyas:* the last mentioned comprehend seven others. In like manner, the *Taittiríyacas* are, in the first instance, subdivided into two, the *Auc'hyáyas* and *Chán'dicéyas;* and these last are again subdivided into five, the *A'pastambíyas*, &c. Among them, A'PASTAMBA's *s'ác'há* is still subsisting; and so is A'TRE'YA's, among those which branched from UC'LA: but the rest, or most of them, are become rare, if not altogether obsolete.

SUMANTU, son of JAIMINI, studied the *Sáma-véda*, or *Ch'ándógya*, under his father: and his own son, SUCARMAN, studied under the same teacher, but founded a different school; which was the origin of two others, derived from his pupils, HIRAN'YANA'BHA and PAUSHYINJI, and thence branching into a thousand more. For LÓCA'CSHI, CUTHUMI, and other disciples of PAUSHYINJI, gave their names to separate schools, which were increased by their pupils. The *S'ác'há*, entitled *Caut'humi*, still subsists. HIRAN'YANA'BHA, the other pupil of SUCARMAN, had fifteen disciples, authors of *Sanhitás*, collectively called the northern *Sámagas;* and fifteen others, entitled the southern *Sámagas:* and CRĬTI, one of his pupils, had twenty-four disciples, by whom, and by their followers, the other schools were founded. Most of them are now lost; and, according to a legend, were destroyed by the thunderbolt of INDRA. The principal *S'ác'há* now subsisting, is that of the *Rán'áyaníyas*, including seven subdivisions; one

of which is entitled *Caut'humi*, as above-mentioned, and comprehends six distinct schools. That of the *Talavacáras*, likewise, is extant, at least, in part: as will be shown in speaking of the *Upanishads.*

The *At'harva-véda* was taught by SUMANTU, to his pupil CABAND'HA, who divided it between DE'VADARS'A and PAT'HYA. The first of these has given name to the *S'ác'há*, entitled *Dévadarsí;* as PIPPALA'DA, the last of his four disciples, has, to the *S'ác'há* of the *Paippaládis.* Another branch of the *At'harvana* derives its appellation from SAUNACA, the third of PAT'HYA'S pupils. The rest are of less note.

Such is the brief history of the *Véda*, deducible from the authorities before cited. But those numerous *S'ác'hás* did not differ so widely from each other, as might be inferred from the mention of an equal number of *Sanhitás*, or distinct collections of texts. In general, the various schools of the same *Véda* seem to have used the same assemblage of prayers; they differed more in their copies of the precepts or *Bráhman'as;* and some received, into their canon of scripture, portions which do not appear to have been acknowledged by others. Yet the chief difference seems always to have been the use of particular rituals taught in aphorisms *(Sútras)* adopted by each school; and these do not constitute a portion of the *Véda;* but, like grammar and astronomy, are placed among its appendages.

It may be here proper to remark, that each *Véda* consists of two parts, denominated the *Mantras* and the *Bráhman'as;* or prayers and precepts. The complete collection of the hymns, prayers, and invocations, belonging to one *Véda*, is entitled

its *Sanhitá*. Every other portion of *Indian* scripture is included under the general head of divinity (*Bráhman'a*). This comprises precepts, which inculcate religious duties; maxims, which explain those precepts; and arguments, which relate to theology*. But, in the present arrangement of the *Védas*, the portion, which contains passages called *Bráhman'as*, includes many which are strictly prayers or *Mantras*. The theology of the *Indian* scripture, comprehending the argumentative portion entitled *Védánta*, is contained in tracts denominated *Upanishads;* some of which are portions of the *Bráhman'a*, properly so called; others are found only in a detached form; and one is a part of a *Sanhitá* itself.

On the RÏGVE'DA.

THE *Sanhitá* of the first *Véda* † contains *mantras*, or prayers, which, for the most part, are encomiastick; as the name of the *Rïgvéda* implies ‡. This collection is divided into eight parts

---

* The explanation, here given, is taken from the *Prast'hána bhéda*.

† I have several copies of it, with the corresponding index for the *Sác'alya, S'ác'há;* and also an excellent commentary by SAYAN'A'CHA'RYA. In another collection of *mantras*, belonging to the *'As'waláyaní S'ác'há* of this *Véda*, I find the first few sections of each lecture agree with the other copies; but the rest of the sections are omitted. I question whether it be intended as a complete copy for that *S'ác'há*.

‡ Derived from the verb *rich*, to laud; and properly signifying any prayer or hymn, in which a deity is praised. As those are mostly in verse, the term becomes also applicable to such passages of any *Véda*, as are reducible to measure according to the rules of prosody. The first *Véda*, in VYA'SA's compilation,

1

(C'han'da); each of which is subdivided into as many lectures *(ad'hyáya)*. Another mode of division also runs through the volume; distinguishing ten books *(mán'dala)*, which are subdivided into more than a hundred chapters *(anuváca)*, and comprise a thousand hymns or invocations *(súcta)*. A further subdivision of more than two thousand sections *(barga)* is common to both methods: and the whole contains above ten thousand verses, or rather stanzas, of various measures.

On examining this voluminous compilation, a systematical arrangement is readily perceived. Successive chapters, and even entire books, comprise hymns of a single author: invocations, too, addressed to the same deities, hymns relating to like subjects, and prayers intended for similar occasions, are frequently classed together. This requires explanation.

In a regular perusal of the *Véda*, which is enjoined to all priests, and which is much practised by *Mahráttas* and *Telingas*, the student or reader is required to notice, especially, the author, subject, metre, and purpose of each *mantra*, or invocation. To understand the meaning of the passage is thought less important. The institutors of the *Hindu* system have indeed recommended the study of the sense; but they have inculcated with equal strenuousness, and more success, attention to the name of the *Rĭshi* or person, by whom the text was first uttered, the deity to whom it is addressed, or the subject to which it relates, and also its rhythm or metre, and its purpose, or the

comprehending most of these texts, is called the *Rigvéda;* or, as expressed in the Commentary on the Index, "because it abounds with such texts *(Rich)*."

religious ceremony at which it should be used. The practice of modern priests is conformable with these maxims. Like the *Koran* among the *Mohammedans*, the *Véda* is put into the hands of children in the first period of their education; and continues afterwards to be read by rote, for the sake of the words without comprehension of the sense.

Accordingly the *Véda* is recited in various superstitious modes: word by word, either simply disjoining them, or else repeating the words alternately, backwards and forwards, once or oftener. Copies of the *Rĭgvéda* and *Yajush* (for the *Sáma-véda* is chanted only) are prepared for these and other modes of recital, and are called *Pada*, *Crama*, *Jat'á*, *Ghana*, &c. But the various ways of inverting the text are restricted, as it should appear, to the principal *Védas;* that is, to the original editions of the *Rĭgvéda* and *Yajush:* while the subsequent editions, in which the text, or the arrangement of it, is varied, being therefore deemed subordinate *'Sác'hás*, should be repeated only in a simple manner.

It seems here necessary to justify my interpretation of what is called the "*Rĭshi* of a *mantra*." The last term has been thought to signify an incantation rather than a prayer; and, so far as supernatural efficacy is ascribed to the mere recital of the words of a *mantra*, that interpretation is sufficiently accurate; and, as such, it is undoubtedly applicable to the unmeaning incantations of the *Mantra-s'as'tra*, or *Tantras* and *A'gamas*. But the origin of the term is certainly different. Its derivation from a verb, which signifies 'to speak privately,' is readily explained by the injunction for meditating the text of the *Véda*, or reciting it

inaudibly: and the import of any *mantra* in the *Indian* scriptures, is generally found to be a prayer, containing either a petition to a deity, or else thanksgiving, praise, and adoration.

The *Rĭshi* or saint of a *mantra* is defined, both in the index of the *Rĭgvéda*, and by commentators, "he, by whom it is spoken:" as the *Dévatá*, or deity, is, "that, which is therein mentioned." In the index to the *Vájasanéyí Yajurvéda*, the *Rĭshi* is interpreted "the seer or rememberer" of the text; and the *Dévatá* is said to be "contained in the prayer; or [named] at the commencement of it; or [indicated as] the deity, who shares the oblation, or the praise." Conformably with these definitions, the deity, that is lauded or supplicated in the prayer, is its *Dévatá*: but in a few passages, which contain neither petition nor adoration, the subject is considered as the deity, that is spoken of. For example, the praise of generosity is the *Dévatá* of many entire hymns addressed to princes, from whom gifts were received by the authors.

The *Rĭshi*, or speaker, is of course rarely mentioned in the *mantra* itself: but, in some instances, he does name himself. A few passages too, among the *matras* of the *Véda*, are in the form of dĭalogue; and, in such cases, the discoursers were alternately considered as *Rĭshi* and *Dévatá*. In general, the person, to whom the passage was revealed, or, according to another gloss, by whom its use and application was first discovered *,

---

* Translating literally, "the *Rishi* is he, by whom the text *was seen*." PAN'INI (4. ii. 7) employs the same term in explaining the import of derivatives used as denominations of passages in scripture; and his commentators concur with those of the

is called the *Rĭshi* of that *mantra.* He is evidently then the author of the prayer; notwithstanding the assertions of the *Hindus,* with whom it is an article of their creed, that the *Véda*s were composed by no human author. It must be understood, therefore, that, in affirming the primeval existence of their scriptures, they deny these works to be the original composition of the editor (VYA'SA), but believe them to have been gradually revealed to inspired writers.

The names of the respective authors of each passage are preserved in the *Anucramańí,* or explanatory table of contents, which has been handed down with the *Véda* itself, and of which the authority is unquestioned*. According to this index, VIS'WA'MITRA is author of all the hymns contained in the third book of the *Rĭgvéda;* as BHARADWA'JA is, with rare exceptions, the composer of those collected in the sixth book; VASISHT'HA, in the seventh; GRĬTSAMADA, in the second; VA'MADE'VA in the fourth; and BUD'HA† and other descendants of ATRI, in the fifth. But, in the remaining books of this *Véda,* the authors

---

Véda, in the explanation here given. By *Rishi* is generally meant the supposed inspired writer: sometimes, however, the imagined inspirer, is called the *Rishi,* or saint of the text; and, at other times, as above noticed, the *dialogist* or speaker of the sentence.

* It appears from a passage in the *Vijeya vilása,* as also from the *Védadípa,* or abridged commentary on the *Vájasanéyí,* as well as from the index itself, that CA'TYA'YANA is the acknowledged author of the index to the white *Yajush.* That of the *Rigvéda* is ascribed by the commentator, to the same CA'TYA'YANA, pupil of SAUNACA. The several indexes of the *Véda* contribute to the preservation of the genuine text; especially, where the metre, or the number of syllables, is stated; as is generally the case.

† First of the name, and progenitor of the race of Kings called children of the moon.

are more various: among these, besides AGASTYA, CAS'YAPA, son of MARI'CHI, ANGIRAS, JAMADAGNI, son of BHRĬGU, PARA'S'ARA, father of VYA'S'A, GÓTAMA and his son NÓD'HAS, VRĬHASPATI, NA'REDA, and other celebrated *Indian* saints, the most conspicuous are CAN'WA, and his numerous descendants, ME'D'HATIT'HI, &c.; MAD'HUCH'HANDA'S, and others among the posterity of VISWA'MITRA; S'UNAS'E'P'HA, son of AJIGARTA; CUTSA, HIRAN'YASTU'YA, SAVYA, and other descendants of ANGIRAS; besides many other saints, among the posterity of personages above-mentioned.

It is worthy of remark, that several persons of royal birth (for instance, five sons of the king VRĬHANGIR; and TRAYYARUN'A and TRASADAS'YU, who were themselves kings); are mentioned among the authors of the hymns, which constitute this *Véda:* and the text itself, in some places, actually points, and in others obviously alludes, to monarchs, whose names are familiar in the *Indian* heroic history. As this fact may contribute to fix the age, in which the *Véda* was composed, I shall here notice such passages of this tendency, as have yet fallen under my observation.

The sixth hymn of the eighteenth chapter of the first book, is spoken by an ascetic named CACSHI'VAT, in praise of the munificence of SWANAYA, who had conferred immense gifts on him. The subject is continued in the seventh hymn, and concludes with a very strange dialogue between the king BHA'VAYAVYA and his wife RÓMASA', daughter of VRĬHASPATI. It should be remarked, concerning CACSHI'VAT, that his mother US'IC was bondmaid of king ANGA's queen.

The eighth book opens with an invocation,

which alludes to a singular legend. 'ASANGA, son of PLAYÓGA, and his successor on the throne, was metamorphosed into a woman; but retrieved his sex through the prayers of ME'D'HYATIT'HI, whom he therefore rewarded most liberally. In this hymn he is introduced praising his own munificence; and, towards the close of it, his wife 'SAS'WATI', daughter of ANGIRAS, exults in his restoration to manhood.

The next hymns applaud the liberality of the kings VIBHINDU, PACAST'HAMAN (son of CURAYA'N'A), CURUNGA, CAS'U (son of CHE'DI'), and TIRINDIRA (son of PARAS'U), who had severally bestowed splendid gifts on the respective authors of these thanksgivings. In the third chapter of the same book, the seventh hymn commends the generosity of TRASADA'SYU, the grandson of MA'ND'HA'TRI. The fourth chapter opens with an invocation containing praises of the liberality of CHITRA; and the fourth hymn of the same chapter celebrates VARU, son of SUSHA'MAN.

In the first chapter of the tenth book, there is a hymn to water, spoken by a king, named SIND'HUDWI'PA, the son of AMBARISHA. The seventh chapter contains several passages, from the fifteenth to the eighteenth *súcta*, which allude to a remarkable legend. ASAMA'TI, son or descendant of ICSHWA'CU, had deserted his former priests, and employed others: the forsaken *Bráhman'as* recited incantations for his destruction; his new priests, however, not only counteracted their evil designs, but retaliated on them, and caused the death of one of those *Bráhman'as*: the rest recited these prayers, for their own preservation, and for the revival of their companion.

The eighth chapter opens with a hymn, which alludes to a story respecting NA'BHA'NE'DISHT'A, son of MENU, who was excluded from participation with his brethren in the paternal inheritance. The legend itself is told in the *Aitaréya Bráhmańa**, or second portion of the *Rigvéda.*

Among other hymns by royal authors, in the subsequent chapters of the tenth book of the *Sanhitá*, I remark one by MA'ND'HA'TRI', son of YUVANA'S'WA, and another by S'IVI, son of US'I'NARA, a third by VASUMANAS, son of RÓHIDAS'WA, and a fourth by PRATARDANA, son of DIVÓDA'SA, king of *Cás'i.*

The deities invoked appear, on a cursory inspection of the *Véda*, to be as various as the authors of the prayers addressed to them: but, according to the most ancient annotations on the *Indian* scripture, those numerous names of persons and things are all resolvable into different titles of three deities, and ultimately of one god. The *Nig'hanti*, or glossary of the *Védas*, concludes with three lists of names of deities: the first comprising such as are deemed synonymous with fire; the second, with air; and the third with the sun †. In the last part of the *Niructa*, which entirely relates to deities, it is twice asserted, that there are but three gods; '*Tisra éva dévatáh* ‡.' The further

* In the second lecture and fourteenth section of the fifth book.

† *Nig'hanti*, or first part of the *Niructa*, C. 5.

‡ In the second and third sections of the twelfth chapter, or lecture, of the glossary and illustrations of the *Véda*. The *Niructa* consists of three parts: the first, a glossary as above-mentioned, comprises five short chapters or lectures. The second, entitled *Naigama*, or the first half of the *Niructa*, properly so called, consists of six long chapters; and the third entitled *Daivata*, or second half of the proper *Niructa*, contains eight more.

inference, that these intend but one deity, is supported by many passages in the *Véda;* and is very clearly and concisely stated in the beginning of the index to the *Rigvéda,* on the authority of the *Niructa,* and of the *Véda* itself.

'Yasya vácyam, sa rishir; yá tén'óchyaté, sá dévatá; yad acshara-parimánám, tach ch'handó. Art'hépsava rishayó dévatás ch'handóbhir abhyad'hávan.

'*Tisra éva dévatáh;* cshity-antaricsha-dyu-st'háná, agnir váyuh súrya ity: évam vyáhritayah próctá vyastáh; samastánám prajápatir. O'ncára sarvadévatyah, páramésht'hyó va, bráhmó, daivó va, ád'hyátmicas. Tat tat st'háná anyás tad vibhútayah; carma prit'hactwád d'hi prithag abhid'hána stutayó bhavanty: éc'aiva vá mahán átmá dévatá; sa súrya ity áchacshaté; sa hi sarva-bhút' átmá. Tad uctam rishin'á: "*súryá átmá jagatas tast'hushas ch'éti.*" Tad vibhútayó' nyá dévatás. Tad apy étad rishin' óctam: "*Indram Mitram Varun'am Agnim áhur iti.*"

'The *Rishi* [of any particular passage] is he, whose speech it is; and that, which is thereby addressed, is the deity [of the text]: and the number of syllables constitutes the metre [of the prayer]. Sages *(Rishis),* solicitous of [attaining] particular objects, have approached the Gods with [prayers composed in] metre.

'The deities are only three; whose places are, the earth, the intermediate region, and heaven: [namely] fire, air, and the sun. They are pro-

The chapter, here cited, is marked as the twelfth including the glossary, or seventh exclusive of it.

nounced to be [the deities] of the mysterious names* severally; and (PRAJA'PATI) the lord of creatures is [the deity] of them collectively. The syllable *O'm* intends every deity: it belongs to *(Paraméshťhí)* him, who dwells in the supreme abode; it appertains to *(Brahme)* the vast one; to *(Déva)* God; to *(Ad'hyátma)* the superintending soul. Other deities, belonging to those several regions, are portions of the [three] Gods; for they are variously named and described, on account of their different operations: but [in fact] there is only one deity, THE GREAT SOUL *(Mahán átmá)*. He is called the sun; for he is the soul of all beings; [and] that is declared by the sage, "the sun is the soul of *(jagat)* what moves, and "of *(tasťhush)* that which is fixed." Other deities are portions of him: and that is expressly declared by the sage: "The wise call fire, INDRA, MITRA, "and VARUN'A;" &c.†

This passage of the *Anucraman'i* is partly abridged from the *Niructa* (c. 12), and partly taken from the *Bráhman'a* of the *Véda*. It shows (what is also deducible from texts of the *Indian* scriptures, translated in the present and former essays), that the ancient *Hindu* religion, as founded on the *Indian* scriptures, recognises but one God; yet not sufficiently discriminating the creature from the creator.

---

* *Bhur, bhuvah,* and *swar;* called the *Vyáhritis*. See MENU, c. 2, v. 76. In the original text, the nominative case is here used for the genitive; as is remarked by the Commentator, on this passage. Such irregularities are frequent in the *Védas* themselves.

† *Niructa,* c. 12, § 4, ad finem. The remainder of the passage, that is here briefly cited by the author of the Index, identifies fire with the great and only soul.

The subjects and uses of the prayers contained in the *Véda*, differ more than the deities which are invoked, or the titles by which they are addressed. Every line is replete with allusions to mythology *, and to the *Indian* notions of the divine nature and of celestial spirits. For the innumerable ceremonies to be performed by a householder, and, still more, for those endless rites enjoined to hermits and asceticks, a choice of prayers is offered in every stage of the celebration. It may be here sufficient to observe, that INDRA, or the firmament, fire, the sun, the moon, water, air, the spirits, the atmosphere and the earth, are the objects most frequently addressed: and the various and repeated sacrifices with fire, and the drinking of the milky juice of the moon-plant or acid asclepias †, furnish abundant occasion for numerous prayers adapted to the many stages of those religious rites. I shall, therefore, select for remark such prayers as seem most singular; rather than such as might appear the fairest specimens of this *Véda*.

In the fifteenth chapter of the first book, there are two hymns ascribed to CUTSA, and also to TRITA, son of water. Three asceticks, brothers it should

---

* Not a mythology which avowedly exalts deified heroes (as in the *Purán'as)*; but one, which personifies the elements and planets; and which peoples heaven, and the world below, with various orders of beings.

I observe, however, in many places, the ground-work of legends, which are familiar in mythological poems; such, for example, as the demon VRITRA, slain by INDRA, who is thence surnamed VRITRAHAN; but I do not remark any thing that corresponds with the favourite legends of those sects, which worship either the *Linga*, or *Sacti*, or else RA'MA or CRISHN'A. I except some detached portions, the genuineness of which appears doubtful; as will be shown towards the close of this essay.

† *Sóma-latá*, Asclepias acida, or Cynanchum viminale.

seem, since they are named in another portion of the *Véda* as (*Aptya*) sons of water (*Ap*), were oppressed with thirst while travelling in a sandy desert. At length, they found a well; and one of them descended into it, and thence lifted water for his companions: but the ungrateful brothers stole his effects, and left him in the well, covering it with a heavy cart-wheel. In his distress he pronounced the hymns in question. It appears from the text, that CUTSA also was once in similar distress; and pronounced the same or a similar invocation: and, for this reason, the hymns have been placed, by the compiler of the *Véda*, among those of which CUTSA is the author.

The twenty-third chapter of the same book commences with a dialogue between AGASTYA, INDRA, and the MARUTS; and the remainder of that, with the whole of the twenty-fourth chapter, comprises twenty-six hymns addressed by AGASTYA to those divinities, and to the *As'wins*, fire, the sun, and some other deities. The last of these hymns was uttered by AGASTYA, under the apprehension of poison; and is directed by rituals to be used as an incantation against the effects of venom. Other incantations, applicable to the same purpose, occur in various parts of the *Véda;* for example, a prayer by VASISH'T'HA for preservation from poison (book 7, ch. 3, § 18).

The third book, distributed into five chapters, contains invocations by VIS'WA'MITRA, son of GA'T'HIN, and grandson of CUS'ICA. The last hymn or *Súcta*, in this book, consists of six prayers, one of which includes the celebrated *Gáyatrí:* this remarkable text is repeated more than once in other *Védas;* but, since VIS'WA'MITRA is acknowledged to be the *Rishi*, to whom it was

first revealed, it appears, that its proper and original place is in this hymn. I therefore subjoin a translation of the prayer, which contains it, as also the preceding one, (both of which are addressed to the sun;) for the sake of exhibiting the *Indian* priest's confession of faith with its context; after having, in former essays, given more than one version of it apart from the rest of the text. The other prayers, contained in the same *Súcta*, being addressed to other deities, are here omitted.

'This new and excellent praise of thee, O splendid, playful, sun *(Púshan)!* is offered by us to thee. Be gratified by this my speech: approach this craving mind, as a fond man seeks a woman. May that sun *(Púshan)*, who contemplates, and looks into, all worlds, be our protector.'

'LET US MEDITATE ON THE ADORABLE LIGHT OF THE DIVINE RULER *(SAVITRĬ)* *: MAY IT GUIDE OUR INTELLECTS. Desirous of food, we solicit the gift of the splendid sun *(Savitrĭ)*, who should be studiously worshipped. Venerable men, guided by the understanding, salute the divine sun *(Savitrĭ)* with oblations and praise.'

The two last hymns, in the third chapter of the 7th book, are remarkable; as being addressed to the guardian spirit of a dwelling house, and used as prayers, to be recited with oblations, on building a house. The legend, belonging to the second of these hymns, is singular: VASISH'T'HA,

---

* SAYAN'A'CHA'RYA, the commentator whose gloss is here followed, considers this passage to admit of two interpretations: 'the light, or *Brahme* constituting the splendour, of the supreme ruler, or creator of the universe;' or 'the light, or orb, of the splendid sun.'

coming at night to the house of VARUN'A, (with the intention of sleeping there, say some; but, as others affirm, with the design of stealing grain to appease his hunger, after a fast of three days,) was assailed by the house dog. He uttered this prayer, or incantation, to lay asleep the dog who was barking at, and attempting to bite, him. A literal version of the first of those hymns is here subjoined.

'Guardian of this abode! be acquainted with us; be to us a wholesome dwelling; afford us what we ask of thee; and grant happiness to our bipeds and quadrupeds. Guardian of this house! increase both us and our wealth. Moon! while thou art friendly, may we, with our kine and our horses, be exempted from decrepitude: guard us as a father protects his offspring. Guardian of this dwelling! may we be united with a happy, delightful, and melodious abode afforded by thee: guard our wealth now under thy protection, or yet in expectancy: and do thou defend us.'

The fourth hymn, in the fourth chapter, concludes with a prayer to RUDRA, which, being used with oblations after a fast of three days, is supposed to ensure a happy life of a hundred years. In the sixth book, three hymns occur, which, being recited with worship to the sun, are believed to occasion a fall of rain after the lapse of five days: the two first are aptly addressed to a cloud; and the third is so, to frogs, because these had croaked while VASISH'T'HA recited the preceding prayers, which circumstance he accepted as a good omen.

The sixth chapter of the tenth book closes with two hymns, the prayer of which is the destruc-

tion of enemies, and which are used at sacrifices for that purpose.

The seventh chapter opens with a hymn, in which SURYA', surnamed SAVITRI', the wife of the moon*, is made the speaker; as DACSHINA', daughter of PRAJA'PATI, and JUHU, daughter of BRAHMA', are, in subsequent chapters †. A very singular passage occurs in another place, containing a dialogue between YAMA and his twin-sister YAMUNA', whom he endeavours to seduce; but his offers are rejected by her with virtuous expostulation.

Near the close of the tenth chapter, a hymn, in a very different style of composition, is spoken by VA'CH, daughter of AMBHRĬN'A, in praise of herself as the supreme and universal soul ‡. *Vách*, it should be observed, signifies speech; and she is the active power of BRAHMA', proceeding from him. The following is a literal version of this hymn, which is expounded by the commentator, consistently with the theological doctrines of the *Védas*.

---

* This marriage is noticed in the *Aitaréya Bráhman'a*, where the second lecture of the fourth book opens in this manner; 'PRAJA'PATI gave his daughter, SU'RYA' SA'VITRI', to SÓMA, the king.' The well known legend in the *Purán'as*, concerning the marriage of SÓMA with the daughters of DACSHA, seems to be founded on this story in the *Védas*.

† In the introduction to the index, these, together with other goddesses, who are reckoned authors of holy texts, are enumerated and distinguished by the appellation of *Brahmevádiní*. An inspired writer is, in the masculine, termed *Brahmevádin*.

‡ Towards the end of the *Vrihadáranyaca*, VA'CH is mentioned as receiving a revelation from AMBHI'NI, who obtained it from the sun: but here she herself bears the almost similar patronymic AMBHRIN'I'.

'I range with the *Rudras*, with the *Vasus*, with the *'Adityas*, and with the *Vis'wadévas*. I uphold both the sun and the ocean [MITRA and VARUN'A], the firmament [INDRA] and fire, and both the AS'WINS. I support the moon [SO'MA], destroyer [of foes]; and [the sun entitled] TWASHTRĬ, PU'-SHAN, or BHAGA. I grant wealth to the honest votary who performs sacrifices, offers oblations, and satisfies [the deities]. Me, who am the queen, the conferrer of wealth, the possessor of knowledge, and first of such as merit worship, the gods render, universally, present every where, and pervader of all beings. He, who eats food through me, as he, who sees, who breathes, or who hears, through me, yet knows me not, is lost; hear then the faith, which I pronounce. Even I declare this self, who is worshipped by gods and men: I make strong, whom I choose; I make him *Brahmá*, holy, and wise. For RUDRA I bend the bow, to slay the demon, foe of BRAHMA; for the people I make war [on their foes]; and I pervade heaven and earth. I bore the father, on the head of this [universal mind]; and my origin is in the midst of the ocean*; and, therefore, do I pervade all beings, and touch this heaven with my form. Originating all beings, I pass like the breeze; I am above this heaven, beyond this earth; and what is the great one, that am I.'

---

* Heaven, or the sky, is the father; as expressly declared in another place: and the sky is produced from mind, according to one more passage of the *Védas*. Its birth is therefore placed on the head of the supreme mind. The commentator suggests three interpretations of the sequel of the stanza: 'my parent, the holy *Ambhrin'a*, is in the midst of the ocean;' or, 'my origin, the sentient deity, is in waters, which constitute the bodies of the gods;' or, 'the sentient god, who is in the midst of the waters, which pervade intellect, is my origin.'

The tenth chapter closes with a hymn to night; and the eleventh begins with two hymns relative to the creation of the world. Another, on this subject was translated in a former essay *: it is the last hymn, but one, in the *Rigvéda;* and the author of it is AG'HAMARSHAN'A (a son of MAD'HUCH'HANDAS), from whom it takes the name by which it is generally cited. The other hymns, of which a version is here subjoined, are not ascribed to any ascertained author. PRAJA'PATI, surnamed *Paramésht'hí,* and his son YAJNYA, are stated as the original speakers. But, of these names, one is a title of the primeval spirit; and the other seems to allude to the allegorical immolation of *Brahmá.*

I. 'Then was there no entity, nor nonentity; no world, nor sky, nor ought above it: nothing, any where, in the happiness of any one, involving or involved: nor water, deep and dangerous. Death was not; nor then was immortality: nor distinction of day or night. But THAT † breathed without afflation, single with *(Swad'há)* her who is sustained within him. Other than him, nothing existed, [which] since [has been]. Darkness there was; [for] this universe was enveloped with darkness, and was undistinguishable [like fluids mixed in] waters: but that mass, which was covered by the husk, was [at length] produced by the power

* *Asiatic* Researches, Vol. V. p. 361.

† The pronoun *(tad),* thus emphatically used, is understood to intend the supreme being according to the doctrines of the *Védánta.* When manifested by creation, he is the entity *(sat);* while forms, being mere illusion, are nonentity *(asat).* The whole of this hymn is expounded according to the received doctrines of the Indian theology, or *Védánta.* Darkness and desire *(Tamas* and *Cáma)* bear a distant resemblance to the Chaos and Eros of HESIOD. Theog. v. 116.

of contemplation. First desire was formed in his mind: and that became the original productive seed; which the wise, recognising it by the intellect in their hearts, distinguish, in nonentity, as the bond of entity.'

'Did the luminous ray of these [creative acts] expand in the middle? or above? or below? That productive seed, at once, became providence [or sentient souls], and matter [or the elements]: she, who is sustained within himself*, was inferior; and he, who heeds, was superior.'

'Who knows exactly, and who shall in this world declare, whence and why this creation took place? The gods are subsequent to the production of this world: then who can know whence it proceeded? or whence this varied world arose? or whether it uphold [itself], or not? He, who, in the highest heaven, is the ruler of this universe, does indeed know; but not another can possess that knowledge.'

II. 'That victim, who was wove with threads on every side, and stretched by the labors of a hundred and one gods, the fathers, who wove and framed and placed the warp and woof, do worship. The [first] male spreads and encompasses this [web]; and displays it in this world and in heaven: these rays [of the creator] assembled at the altar, and prepared the holy strains, and the threads of the warp.'

'What was the size of that divine victim, whom all the gods sacrificed? What was his form? what

---

* So *Swad'há* is expounded: and the commentator makes it equivalent to *Máyá*, or the world of ideas.

the motive? the fence? the metre? the oblation? and the prayer? First was produced the *Gáyatrí* joined with fire; next the sun *(Savitrí)* attended by *Ushnih*; then the splendid moon with *Anusht'ubh*, and with prayers; while *Vrihatí* accompanied the elocution of VRIHASPATI (or the planet JUPITER). *Virátí* was supported by the sun and by water (MITRA and VARUN'A); but the [middle] portion of the day and *Trishtubh* were here the attendants of INDRA; *Jagatí* followed all the gods: and by that [universal] sacrifice, sages and men were formed.'

'When that ancient sacrifice was completed, sages, and men, and our progenitors, were by him formed. Viewing with an observant mind this oblation, which primeval saints offered, I venerate them. The seven inspired sages, with prayers and with thanksgivings, follow the path of these primeval saints, and wisely practise [the performance of sacrifices], as charioteers use reins [to guide their steeds].'

Some parts of these hymns bear an evident resemblance to one, which has been before cited from the white *Yajush**, and to which I shall again advert in speaking of that *Véda*. The commentator on the *Rigvéda* quotes it to supply some omissions in this text. It appears also, on the faith of his citations, that passages, analogous to these, occur in the *Taittiríyaca*, or black *Yajush*, and also in the *Bráhman'a* of the *Véda*.

The hundred and one gods, who are the agents in the framing of the universe typified by a sacri-

---

* *Asiatic* Researches, Vol. VII. p. 251.

fice, are, according to this commentator, the years of BRAHMA's life, or his afflations personified in the form of ANGIRAS, &c. The seven sages, who instituted sacrifices in imitation of the primeval type, are MARI'CHI, and others. *Gáyatrí*, *Ushnih*, &c. are names of metres, or of the various lengths of stanzas and measured verses, in the *Védas*.

The preceding quotations may be sufficient to show the style of this part of the *Véda*; which comprehends the prayers and invocations.

Another part belonging, as it appears, to the same *Véda*, is entitled *Aitaréya Bráhman'a*. It is divided into eight books *(panjicá)*, each containing five chapters or lectures *(ad'hyáya)*, and subdivided into an unequal number of sections *(c'han'da)*, amounting in the whole to two hundred and eighty-five. Being partly in prose, the number of distinct passages contained in those multiplied sections need not be indicated.

For want either of a complete commentary *, or of an explanatory index †, I cannot undertake from a cursory perusal, to describe the whole contents of this part of the *Véda*. I observe, however, many curious passages in it, especially towards the close. The seventh book had treated of sacrifices performed by kings: the subject is continued in the first four chapters of the eighth book; and three of these relate to a ceremony for the consecration of kings, by pouring on their

* I possess three entire copies of the text, but a part only of the commentary by SA'YAN'A'CHA'RYA.

† The index before-mentioned does not extend to this part of the *Véda*.

heads, while seated on a throne prepared for the purpose, water mixed with honey, clarified butter, and spirituous liquor, as well as two sorts of grass and the sprouts of corn. This ceremony, called *Abhishéca*, is celebrated on the accession of a king; and subsequently, on divers occasions, as part of the rites belonging to certain solemn sacrifices performed for the attainment of particular objects.

The mode of its celebration is the subject of the second chapter of the eighth book; or thirty-seventh chapter, reckoned (as is done by the commentator) from the beginning of the *Aitaréya*. It contains an instance, which is not singular in the *Védas*, though it be rather uncommon in their didactick portion, of a disquisition on a difference of opinion among inspired authors. 'Some,' it says, 'direct the consecration to be completed with the appropriate prayer, but without the sacred words *(Vyáhrïtis)*, which they here deem superfluous: others, and particularly SATYACA'MA, son of JA'BA'LA, enjoin the complete recitation of those words, for reasons explained at full length; and UDDA'LACA, son of ARUN'A, has therefore so ordained the performance of the ceremony.'

The subject of this chapter is concluded by the following remarkable passage. 'Well knowing all the [efficacy of consecration], JANAME'JAYA, son of PARICSHIT, declared; "Priests, conversant with this ceremony, assist me, who am likewise apprized [of its benefits], to celebrate the solemn rite. Therefore, do I conquer [in single combat]; therefore, do I defeat arrayed forces with an arrayed army: neither the arrows of the gods, nor those of men, reach me: I shall live the full period of life; I shall remain master of the whole earth." Truly neither the arrows of the gods,

nor those of men, do reach him, whom well instructed priests assist in celebrating the solemn rite: he lives the full period of life; he remains master of the whole earth.'

The thirty-eighth chapter (or third of the eighth book) describes a supposed consecration of INDRA, when elected by the gods to be their king. It consists of similar, but more solemn, rites; including, among other peculiarities, a fanciful construction of his throne with texts of the *Véda*; besides a repetition of the ceremony of consecration in various regions, to ensure universal dominion. This last part of the description merits to be quoted, on account of the geographical hints which it contains.

'After [his inauguration by PRAJA'PATI], the divine *Vasus* consecrated him in the eastern region, with the same prayers in verse and in prose, and with the same holy words, [as before-mentioned,] in thirty-one days, to ensure his just domination. Therefore, [even now,] the several kings of the *Práchyas*, in the East, are consecrated, after the practice of the gods, to equitable rule (*Sámrájya*); and [people] call those consecrated princes, *Samráj* *.'

'Next the divine *Rudras* consecrated him in the southern region, with the same prayers in verse and in prose, and with the same holy words, in thirty-one days, to ensure increase of happiness. Therefore, the several kings of the *Satwats*, in the

---

* In the nominative case, *Sámrát'*, *Samrád*, or *Samrál*; substituting in this place a liquid letter, which is peculiar to the *Véda*, and to the southern dialects of *India*; and which approaches, in sound, to the common *l*.

south, are consecrated, after the practice of the gods, to the increase of enjoyment *(Bhójya)*; and [people] name those consecrated princes, *Bhója.*

'Then the divine *'Adityas* consecrated him in the western region, with, &c., to ensure sole dominion. Therefore, the several kings of the *Níchyas* and *Apáchyas*, in the West, are consecrated, &c. to sole dominion; and [people] denominate them *Swaráj**.

'Afterwards all the gods *(Viswé déva)* consecrated him in the northern region, with, &c., to ensure separate domination. Therefore, the several [deities, who govern the] countries of *Uttara curu* and *Uttara madra*, beyond *Himavat*, in the North, are consecrated, &c. to distinct rule *(Vairájya)*, and [people] term them *Viráj* †.'

'Next the divine *Sád'hyas* and *A'ptyas* consecrated him, in this middle, central, and present region, with, &c., for local dominion. Therefore, the several kings of *Curu* and *Panchála*, as well as *Vaśa* and *Uśínara*, in the middle, central, and present region, are consecrated, &c. to sovereignty *(Rájya)*; and [people] entitle them *Rájá*..

'Lastly, the *Maruts*, and the gods named *Angiras*, consecrated him, in the upper region, with, &c., to promote his attainment of the supreme abode, and to ensure his mighty domination, superior rule, independent power, and long reign: and, therefore, he became a supreme deity *(Paraméshť'hí)* and ruler over creatures.

---

* In the nominative case, *Swarát'*, *Swarád*, or *Swarál.*

† In the nominative, *Virát'*, *Virád*, or *Virál.*

'Thus consecrated by that great inauguration, INDRA subdued all conquerable [earths], and won all worlds: he obtained, over all the gods, supremacy, transcendent rank and pre-eminence. Conquering, in this world [below], equitable domination, happiness, sole dominion, separate authority, attainment of the supreme abode, sovereignty, mighty power, and superior rule; becoming a self-existent being and independent ruler, exempt from [early] dissolution; and reaching all [his] wishes in that celestial world; he became immortal: he became immortal *.'

The thirty-ninth chapter is relative to a peculiarly solemn rite, performed in imitation of the fabulous inauguration of INDRA. It is imagined that this celebration becomes a cause of obtaining great power and universal monarchy; and the three last sections of the chapter recite instances of its successful practice. Though replete with enormous and absurd exaggerations, they are here translated at full length, as not unimportant, since many kings are mentioned, whose names are familiar in the heroick history of *India*.

§. VII. 'By this great inauguration similar to INDRA'S, TURA, son of CAVASHA, consecrated JANAMÉJAYA, son of PARICSHIT; and, therefore, did JANAMÉJAYA, son of PARICSHIT, subdue the earth completely, all around, and traverse it every way, and perform a sacrifice with a horse as an offering.

---

* In the didactick portion of the *Véda*, the last term, in every chapter, is repeated to indicate its conclusion. This repetition was not preserved in a former quotation, from the necessity of varying considerably the order of the words.

'Concerning that solemn sacrifice, this verse is universally chanted. "In *Asandívat*, JANAME'JAYA bound [as an offering] to the gods, a horse fed with grain, marked with a white star on his forehead, and bearing a green wreath round his neck."

'By this, &c. CHYAVANA, son of BHRĬGU, consecrated SA'RYA'TA sprung from the race of MENU: and, therefore, did he subdue, &c. He became likewise a householder in the service of the gods.

'By this, &c. SO'MAS'USHMAN, grandson of VA'JARATNA, consecrated 'SATA'NI'CA, son of SATRA'JIT: and, therefore, did he subdue, &c.

'By this, &c. PARVATA and NAREDA consecrated A'MBA'SHT'HYA: and, therefore, &c.

'By this, &c. PARVATA and NA'REDA consecrated YUD'HA'NS'RAUSHTI, grandson of UGRASE'NA; and, therefore, &c.

'By this, &c. CAS'YAPA consecrated VIS'WACARMAN, son of BHUVANA; and, therefore, did he subdue, &c.

'The earth, as sages relate, thus addressed him: "No mortal has a right to give me away; yet thou, O VIS'WACARMAN, son of BHUVANA, dost wish to do so. I will sink in the midst of the waters; and vain has been thy promise to CA'SYAPA *."

* So great was the efficacy of consecration, observes the commentator in this place, that the submersion of the earth was thereby prevented, notwithstanding this declaration.

By this, &c. VASISHT'HA consecrated SUDAS, son of PIJAVANA; and, therefore, &c.

By this, &c. SAMVARTA, son of ANGIRAS, consecrated MARUTTA, son of AVICSHIT; and, therefore, &c.

On that subject this verse is every where chanted, "The divine *Maruts* dwelt in the house of MARUTTA, as his guards; and all the gods were companions of the son of AVICSHIT, whose every wish was fulfilled *."

§ VIII. 'By this great inauguration similar to INDRA'S, UDAMAYA, son of ATRI, consecrated ANGA; and, therefore, did ANGA subdue the earth completely all around, and traverse it every way, and perform a sacrifice with a horse as an offering.

'He, perfect in his person, thus addressed [the priest, who was busy on some sacrifice], "Invite me to this solemn rite, and I will give thee [to complete it], holy man! ten thousand elephants and ten thousand female slaves."

'On that subject these verses are every where chanted, "Of the cows, for which the sons of PRIYAMÈ'D'HA assisted UDAMAYA in the solemn rite, this son of ATRI gave them, [every day] at noon, two thousand each, out of a thousand millions.

"The son of VIRO'CHANA [ANGA] unbound and gave, while his priest performed the solemn sacrifice, eighty thousand white horses fit for use.

* All this, observes the commentator, was owing to his solemn inauguration.

'The son of ATRI bestowed in gifts ten thousand women adorned with necklaces, all daughters of opulent persons, and brought from various countries.

'While distributing ten thousand elephants in *Avachatruca*, the holy son of ATRI grew tired and dispatched messengers to finish the distribution.

"A hundred [I give] to you;" "A hundred to you;" still the holy man grew tired; and was at last forced to draw breath, while bestowing them by thousands *.'

§ IX. 'By this great inauguration, similar to INDRA'S, DI'RG'HATAMAS, son of MAMATA', consecrated BHARATA, the son of DUHSHANTA †; and, therefore, did BHARATA, son of DUHSHANTA, subdue the earth completely all around, and traverse it every way, and perform repeated sacrifices with horses as offerings.

'On that subject too, these verses are every where chanted. "BHARATA distributed in *Mashn'ára* ‡, a hundred and seven thousand millions of black elephants with white tusks, and decked with gold.

---

* It was through the solemn inauguration of ANGA, that his priest was able to give such great alms. This remark is by the Commentator.

† So the name should be written, as appears from this passage of the *Véda;* and not, as in copies of some of the *Purán'as,* DUSHMANTA, or DUSHYANTA.

‡ The several manuscripts differ on this name of a country; and, having no other information respecting it, I am not confident that I have selected the best reading. This observation is applicable also to some other uncommon names.

"A sacred fire was lighted for BHARATA, son of DUHSHANTA, in *Sáchi'gun'a*, at which a thousand *Bráhmanas* shared a thousand millions of cows apiece.

"BHARATA, son of DUHSHANTA, bound seventy-eight horses [for solemn rites] near the *Yamuná*; and fifty-five, in *Vrĭtrag'hna*, on the *Gangá*.

"Having thus bound a hundred and thirty-three horses fit for sacred rites, the son of DUHSHANTA became pre-eminently wise, and surpassed the prudence of [every rival] king.

"This great achievement of BHARATA, neither former nor later persons [have equalled]; the five classes of men have not attained his feats, any more than a mortal [can reach] heaven with his hands *."

'The holy saint, VRIHADUCT'HA, taught this great inauguration to DURMUC'HA, king of *Pánchála*; and, therefore, DURMUC'HA, the *Pánchála*, being a king, subdued by means of that knowledge the whole earth around, and traversed it every way †.

'The son of SATYAHAVYA, sprung from the race of VASISHT'HA, communicated this great inauguration to ATYARA'TI, son of JANANTAPA; and, therefore, ATYARA'TI, son of JANANTAPA,

---

* All this, says the commentator, shows the efficacy of inauguration.

† It is here remarked, in the commentary, that a *Bráhman'a*, being incompetent to receive consecration, is however capable of knowing its form: the efficacy of which knowledge is shown in this place.

being no king, [nevertheless] subdued by means of that knowledge the whole earth around, and traversed it every way.

'SA'TYAHAVYA, of the race of VASISHT'HA, addressed him, saying, "Thou hast conquered the whole earth around; [now] aggrandize me." ATYARA'TI, son of JANANTAPA, replied; "When I conquer *Uttaracuru*, then thou shalt be king of the earth, holy man! and I will be merely thy general." SA'TYAHAVYA rejoined; "That is the land of the gods; no mortal can subdue it: thou hast been ungrateful towards me; and, therefore, I resume from thee this [power]." Hence the king S'USHMIN'A, son of S'IVI, destroyer of foes, slew ATYARA'TI, who was [thus] divested of vigour and deprived of strength.

'Therefore let not a soldier be ungrateful towards the priest, who is acquainted [with the form], and practises [the celebration, of this ceremony]; lest he lose his kingdom, and forfeit his life: lest he forfeit his life.'

To elucidate this last story, it is necessary to observe, that, before the commencement of the ceremony of inauguration, the priest swears the soldier by a most solemn oath, not to injure him. A similar oath, as is observed in this place by the commentator, had been administered previously to the communication of that knowledge, to which ATYARA'TI owed his success. The priest considered his answer as illusory and insulting, because *Uttara Curu*, being north of *Méru*, is the land of the gods, and cannot be conquered by men: as this ungrateful answer was a breach of his oath, the priest withdrew his power from him; and, in consequence, he was slain by the foe.

The fortieth and last chapter of the *Aitaréya Bráhman'a*, relates to the benefit of entertaining a *Puróhita*, or appointed priest; the selection of a proper person for that station; and the mode of his appointment by the king; together with the functions to be discharged by him. The last section describes rites to be performed, under the direction of such a priest, for the destruction of the king's enemies. As it appears curious, the whole description is here translated; abridging, however, as in other instances, the frequent repetitions with which it abounds.

'Next then [is described] destruction around air *(Brahme)**. Foes, enemies, and rivals, perish around him, who is conversant with these rites. That, which [moves] in the atmosphere, is air *(Brahme)*, around which perish five deities, lightning, rain, the moon, the sun, and fire.

'Lightning having flashed, disappears behind rain †: it vanishes, and none know [whither it is gone]. When a man dies, he vanishes; and none know [whither his soul is gone]. Therefore, whenever lightning perishes, pronounce this [prayer]; "May my enemy perish: may he disappear, and none know [where he is]." Soon, indeed, none will know [whither he is gone].

'Rain having fallen, [evaporates and] disappears within the moon, &c. When rain ceases, pronounce this [prayer], &c.

'The moon, at the conjunction, disappears

* So this observance is denominated, viz. *Brahman'ah parimarah.*

† Behind a cloud.

within the sun, &c. When the moon is dark, pronounce, &c.

'The sun, when setting, disappears in fire, &c*. When the sun sets, pronounce, &c.

'Fire, ascending, disappears in air, &c. When fire is extinguished, pronounce, &c.

'These same deities are again produced from this very origin. Fire is born of air; for, urged with force by the breath, it increases. Viewing it, pronounce [this prayer], "May fire be revived; but not my foe be reproduced: may he depart averted." Therefore, does the enemy go far away.

'The sun is born of fire†. Viewing it, say, "May the sun rise; but not my foe be reproduced, &c."

'The moon is born of the sun‡. Viewing it, say, "May the moon be renewed, &c."

'Rain is produced from the moon§. Viewing it, say, "May rain be produced, &c."

---

* The *Taittiríya Yajurvéda* contains a passage, which may serve to explain this notion; 'The sun, at eve, penetrates fire; and, therefore, fire is seen afar at night: for both are luminous.'

† At night, as the commentator now observes, the sun disappears in fire: but re-appears thence next day. Accordingly, fire is destitute of splendour by day, and the sun shines brighter.

‡ The moon, as is remarked in the commentary, disappears within the sun at the conjunction; but is reproduced from the sun, on the first day of the bright fortnight.

§ Here the commentator remarks, Rain enters the lunar orb, which consists of water; and, at a subsequent time, it is reproduced from the moon.

'Lightning comes of rain. Viewing it, say, "May lightning appear, &c."

'Such is destruction around air. MAITRE'YA, son of CUSHA'RU, communicated these rites to SUTWAN, son of CIRIS'A, descended from BHA'RGA. Five kings perished around him; and SUTWAN attained greatness.

'The observance [enjoined] to him [who undertakes these rites, is, as follows]: let him not sit down earlier than the foe; but stand, while he thinks him standing. Let him not lie down earlier than the foe; but sit, while he thinks him sitting. Let him not sleep earlier than the foe; but wake, while he thinks him waking. Though his enemy had a head of stone, soon does he slay him: he does slay him.'

Before I quit this portion of the *Véda*, I think it right to add, that the close of the seventh book contains the mention of several monarchs, to whom the observance, there described, was taught by divers sages. For a reason before-mentioned, I shall subjoin the names. They are VIS'WANTARA, son of SUSHADMAN; SAHADE'VA, son of SARJA, and his son SÓMACA; BABHRU, son of DE'VA'VRĬD'HA, BHÍMA of VIDARBHA, NAGNAJIT of GAND'HA'RA, SANAS'RUTA of ARINDAMA, RĬTUVID of JANACA; besides JANAME'JAYA and SUDA'S, who have been also noticed in another place.

The *Aitaréya A'ran'yaca* is another portion of the *Rigvéda*. It comprises eighteen chapters or lectures unequally distributed in five books (*A'ran'yaca*). The second, which is the longest, for it

contains seven lectures, constitutes with the third an *Upanishad* of this *Véda*, entitled the *Bahvṛich Bráhmaṅa Upanishad;* or, more commonly, the *Aitaréya*, as having been recited by a sage named AITARE'YA*. The four last lectures of that second *A'raṅyaca*, are particularly consonant to the theological doctrines of the *Védánta;* and are accordingly selected by theologians of the *Védántí* school, as the proper *Aitaréya Upanishad*†. The

---

* It is so affirmed by ANANDATI'RT'HA in his notes: and he, and the commentator, whom he annotates, state the original speaker of this *Upanishad* to be MAHIDA'SA, an incarnation of NA'RA'YAN'A, proceeding from VIS'A'LA, son of ABJA. He adds, that, on the sudden appearance of this deity at a solemn celebration, the whole assembly of gods and priests fainted: but, at the intercession of BRAHMA', they were revived; and, after making their obeisance, they were instructed in holy science: this *Avatára* was called MAHIDA'SA, because those venerable personages *(Mahin)* declared themselves his slaves *(dása)*.

In the concluding title of one transcript of this *A'raṅya*, I find it ascribed to A'S'WALA'YANA: probably, by an error of the transcriber. On the other hand, SAUNACA appears to be author of some texts of the *A'raṅya;* for a passage, from the second lecture of the fifth (Ar. 5, lect. 2, § 11), is cited as SAUNACA's, by the commentator on the prayers of the *Rigvéda* (lect. 1, § 15).

† I have two copies of SANCARA's commentary, and one of annotations on his gloss by NA'RA'YAN'E'NDRA; likewise a copy of SA'YAN'A's commentary on the same theological tract, and also on the third *A'raṅyaca;* besides annotations by ANANDATI'RT'HA on a different gloss, for the entire *Upanishad*. The concluding prayer, or seventh lecture of the second *A'raṅyaca*, was omitted by SANCARA, as sufficiently perspicuous: but is expounded by SA'YAN'A, whose exposition is the same, which is added by SANCARA's commentator: and which transcribers sometimes subjoin to SANCARA's gloss.

As an instance of singular and needless frauds, I must mention, that the work of ANANDATI'RT'HA was sold to me, under a different title, as a commentary on the *Taittiríya sanhitá* of the *Yajurvéda*. The running titles, at the end of each chapter, had been altered accordingly. On examination, I found it to be a different, but valuable work; as above described.

following is literally translated from this portion of the second *A'ran'yaca.*

The AITARE'YA A'RAN'YA. B. 2.

§ IV. 'Originally this [universe] was indeed SOUL only; nothing else whatsoever existed, active [or inactive]. HE thought, "I will create worlds:" thus HE created these [various] worlds; water, light, mortal [beings] and the waters. That "water," is the [region] above the heaven, which heaven upholds; the atmosphere comprises light; the earth is mortal; and the regions below are "the waters *."

'HE thought, "these are indeed worlds; I will create guardians of worlds." Thus HE drew from the waters, and framed, an embodied being †. HE viewed him; and of that being, so contemplated, the mouth opened as an egg: from the mouth, speech issued; from speech, fire proceeded. The nostrils spread; from the nostrils, breath passed; from breath, air was propagated. The eyes opened: from the eyes, a glance sprung; from that glance, the sun was produced. The ears dilated: from the ears came hearkening; and from that, the regions of space. The skin expanded: from the skin, hair rose; from that, grew

---

* *Ambhas* water; and *A'pas* the waters. The commentators assign reasons for these synonymous terms being employed, severally, to denote the regions above the sky, and those below the earth.

† *Purusha:* a human form.

herbs and trees. The breast opened; from the breast, mind issued: and, from mind, the moon. The navel burst: from the navel, came deglutition*; from that, death. The generative organ burst: thence flowed productive seed; whence waters drew their origin.

'These deities, being thus framed, fell into this vast ocean; and to HIM they came with thirst and hunger: and HIM they thus addressed; "Grant us a [smaller] size, wherein abiding we may eat food." HE offered to them [the form of] a cow: they said, "that is not sufficient for us." HE exhibited to them [the form of] a horse: they said, "neither is that sufficient for us." He showed them the human form: they exclaimed: "well done! ah! wonderful!" Therefore man alone is [pronounced to be] "well formed."

"HE bade them occupy their respective places. Fire becoming speech, entered the mouth. Air, becoming breath, proceeded to the nostrils. The sun, becoming sight, penetrated the eyes. Space became hearing and occupied the ears. Herbs and trees became hair and filled the skin. The moon, becoming mind, entered the breast. Death, becoming deglutition, penetrated the navel; and water became productive seed and occupied the generative organ.

'Hunger and thirst addressed him, saying "Assign us [our places]." HE replied: "You I distribute among these deities; and I make you parti-

* *Apána*. From the analogy between the acts af inhaling and of swallowing, the latter is considered as a sort of breath or inspiration: hence the air, drawn in by deglutition, is reckoned one of five breaths, or airs inhaled into the body.

cipant with them." Therefore is it, that to whatever deity an oblation is offered, hunger and thirst participate with him.

'He reflected, "These are worlds, and regents of worlds: for them I will frame food." He viewed the waters: from waters, so contemplated, form issued; and food is form, which was so produced.

'Being thus framed, it turned away, and sought to flee. The [primeval] man endeavoured to seize it by speech; but could not attain it by his voice: had he by voice taken it, [hunger] would be satisfied by naming food. He attempted to catch it by his breath; but could not inhale it by breathing: had he by inhaling taken it, [hunger] would be satisfied by smelling food. He sought to snatch it by a glance; but could not surprise it by a look: had he seized it by the sight, [hunger] would be satisfied by seeing food. He attempted to catch it by hearing: but could not hold it by listening: had he caught it by hearkening, [hunger] would be satisfied by hearing food. He endeavoured to seize it by his skin; but could not restrain it by his touch: had he seized it by contact, [hunger] would be satisfied by touching food. He wished to reach it by the mind; but could not attain it by thinking: had he caught it by thought, [hunger] would be satisfied by meditating on food. He wanted to seize it by the generative organ, but could not so hold it: had he thus seized it, [hunger] would be satisfied by emission. Lastly, he endeavoured to catch it by deglutition; and thus he did swallow it: that air, which is so drawn in, seizes food; and that very air is the bond of life.

'He [*the universal soul*] reflected "How can this [body] exist without me?" He considered by which extremity he should penetrate. He thought, "If [without me] speech discourse, breath inhale, and sight view; if hearing hear, skin feel, and mind meditate; if deglutition swallow, and the organ of generation perform its functions; then who am I?"

'Parting the suture [*síman*], HE penetrated by this route. That opening is called the suture *(vidrĭti)*, and is the road to beatitude *(nándana)* *.

'Of that soul, the places of recreation are three; and the modes of sleep, as many: this *(pointing to the right eye)* is a place of recreation; this *(pointing to the throat)* is [also] a situation of enjoyment; this *(pointing to the heart)* is [likewise] a region of delight.

'Thus born [as the animating spirit], he discriminated the elements, [remarking] "what else [but him] can I here affirm [to exist];" and he contemplated this [thinking] person †, the vast expanse ‡, [exclaiming] IT have I seen. Therefore is he named IT-SEEING (IDAM-DRA): IT-SEEING is indeed his name: and him, being IT-SEEING, they call, by a remote appellation, INDRA; for

---

* The *Hindus* believe, that the soul, or conscious life, enters the body through the sagittal suture; lodges in the brain; and may contemplate, through the same opening, the divine perfections. Mind, or the reasoning faculty, is reckoned to be an organ of the body, situated in the heart.

† *Purusha.*

‡ *Brahme,* or the great one.

the gods generally delight in the concealment [of their name]. The gods delight in privacy *.

§ V. 'This [living principle] is first, in man, a fetus, or productive seed, which is the essence drawn from all the members [of the body]: thus the man nourishes himself within himself. But, when he emits it into woman, he procreates that [fetus]: and such is its first birth.

'It becomes identified with the woman; and being such, as is her own body, it does not destroy her. She cherishes his ownself †, thus received within her; and, as nurturing him, she ought to be cherished [by him]. The woman nourishes that fetus: but he previously cherished the child, and further does so after its birth. Since he supports the child before and after birth, he cherishes himself: and that, for the perpetual succession of persons; for thus are these persons perpetuated. Such is his second birth.

'This [second] self becomes his representative for holy acts [of religion]: and that other [self], having fulfilled its obligations, and completed its period of life, deceases. Departing hence, he is born again [in some other shape]: and such is his third birth.

'This was declared by the holy sage. "Within the womb, I have recognised all the successive births of these deities. A hundred bodies, like

---

* Here, as at the conclusion of every division of an *Upanishad*, or of any chapter in the didactick portion of the *Vedas*, the last phrase is repeated.

† For the man is identified with the child procreated by him.

iron chains, hold me down: yet, like a falcon, I swiftly rise." Thus spoke VA'MADE'VA, reposing in the womb: and possessing this [intuitive] knowledge, he rose, after bursting that corporeal confinement; and, ascending to the blissful region of heaven*, he attained every wish and became immortal. He became immortal.'

§ VI. 'What is this soul? that we may worship him. Which is the soul? Is it that by which [a man sees]? by which he hears? by which he smells odours? by which he utters speech? by which he discriminates a pleasant or unpleasant taste? Is it the heart [or understanding]? or the mind [or will]? Is it sensation? or power? or discrimination? or comprehension? or perception? or retention? or attention? or application? or haste [or pain]? or memory? or assent? or determination? or animal action†? or wish? or desire?

'All those are only various names of apprehension. But this [soul, consisting in the faculty of apprehension,] is BRAHMA'; he is INDRA; he is (PRAJA'PATI) the lord of creatures: these gods are he; and so are the five primary elements, earth, air, the etherial fluid, water and light‡: these, and the same joined with minute objects and other seeds [of existence], and [again] other [beings] pro-

---

* SWARGA: or place of celestial bliss.

† *Asu:* the unconscious volition, which occasions an act necessary to the support of life, as breathing, &c.

‡ BRAHMA' (in the masculine gender) here denotes, according to commentators, the intelligent spirit, whose birth was in the mundane egg; from which is named HIRAN'YAGARBHA. INDRA is the chief of the gods, or subordinate deities; meaning the elements and planets. PRAJA'PATI is the first embodied spirit, called VIRA'J, and described in the preceding part of this extract. The gods are fire, and the rest as there stated.

duced from eggs, or borne in wombs, or originating in hot moisture *, or springing from plants; whether horses, or kine, or men, or elephants, whatever lives, and walks or flies, or whatever is immovable [as herbs and trees]: all that is the eye of intelligence. On intellect [every thing] is founded: the world is the eye of intellect; and intellect is its foundation. Intelligence is *(Brahme)* the great one.

'By this [intuitively] intelligent soul, that sage ascended from the present world to the blissful region of heaven; and, obtaining all his wishes, became immortal. He became immortal.

§ VII. 'May my speech be founded on understanding: and my mind be attentive to my utterance. Be thou manifested to me, O self manifested [intellect]! For my sake [O speech and mind!] approach this *Véda.* May what I have heard, be unforgotten: day and night may I behold this, which I have studied. Let me think the reality: let me speak the truth. May it preserve me; may it preserve the teacher: me may it preserve: the teacher may it preserve; the teacher may it preserve; may it preserve the teacher †.'

On the CAUSHI'TACI'.

Another *Upanishad* of this *Véda*, appertaining to a particular *S'ác'há* of it, is named from that,

* Vermin and insects are supposed to be generated from hot moisture.

† This, like other prayers, is denominated a *mantra;* though it be the conclusion of an *Upanishad.*

and from the *Bráhman'a*, of which it is an extract, *Caushítaci Bráhman'a Upanishad.* From an abridgment of it (for I have not seen the work at large), it appears to contain two dialogues; one, in which INDRA instructs PRATARDANA in theology; and another, in which AJA'TAS'ATRU, king of CA'S'I, communicates divine knowledge to a priest named BA'LA'CI. A similar conversation between these two persons is found likewise in the *Vrihad'áran'ya* of the *Yajurvéda;* as will be subsequently noticed. Respecting the other contents of the *Bráhman'a*, from which these dialogues are taken, I have not yet obtained any satisfactory information.

The abridgment above-mentioned occurs in a metrical paraphrase of twelve principal *Upanishads*, in twenty chapters, by VIDYA'RAN'YA, the preceptor of MA'DHAVA *áchárya.* He expressly states *Caushítací* as the name of a *S'áchá* of the *Rigvéda.*

The original of the *Caushítací* was among the portions of the *Véda*, which Sir ROBERT CHAMBERS collected at *Benares;* according to a list, which he sent to me, some time before his departure from *India.* A fragment of an *Upanishad*, procured at the same place by Sir WILLIAM JONES, and given by him to Mr. BLAQUIERE, is marked in his hand writing, "The beginning of the *Caushítací.*" In it, the dialogists are CHITRA, surnamed GA'NGA'YANI, and SWE'TACE'TU, with his father UDDA'LACA, son of ARUN'A.

I shall resume the consideration of this portion of the *Rigvéda*, whenever I have the good fortune to obtain the complete text and commentary, either of the *Bráhman'a*, or of the *Upanishad*, which bears this title.

On the WHITE YAJURVE'DA.

The *Vájasanéyí*, or white *Yajush*, is the shortest of the *Védas*; so far as respects the first and principal part, which comprehends the *Mantras*. The *Sanhitá*, or collection of prayers and invocations belonging to this *Véda*, is comprised in forty lectures (*Ad'hyáya*), unequally subdivided into numerous short sections (*cańdicá*); each of which, in general, constitutes a prayer or *Mantra*. It is also divided, like the *Rĭgvéda*, into *Anuvácas*, or chapters. The number of *Anuvácas*, as they are stated at the close of the index to this *Véda*, appears to be two hundred and eighty-six: the number of sections, or verses, nearly two thousand (or exactly 1987). But this includes many repetitions of the same text in divers places. The lectures are very unequal, containing from thirteen to a hundred and seventeen sections (*cańdicá* *).

Though called the *Yajurvéda*, it consists of passages, some of which are denominated *Rich*, while only the rest are strictly *Yajush*. The first are, like the prayers of the *Rĭgvéda*, in metre: the others are either in measured prose, containing from one to a hundred and six syllables; or such of them as exceed that length, are considered to be prose reducible to no measure.

The *Yajurvéda* relates chiefly to oblations and

* I have several copies of MA'D'HYANDINA'S white *Yajush*, one of which is accompanied by a commentary, entitled *Védadípa*; the author of which, MAHI'D'HARA, consulted the commentaries of UVAT'A and MA'D'HAVA, as he himself informs us in his preface.

sacrifices, as the name itself implies *. The first chapter, and the greatest part of the second, contain prayers adapted for sacrifices at the full and change of the moon: but the six last sections regard oblations to the manes. The subject of the third chapter is the consecration of a perpetual fire, and the sacrifice of victims: the five next relate chiefly to a ceremony called *Agnishtóma*, which includes that of drinking the juice of the acid asclepias. The two following relate to the *Vájapéya* and *Rájasúyá;* the last of which ceremonies involves the consecration of a king. Eight chapters, from the eleventh to the eighteenth, regard the sanctifying of sacrificial fire; and the ceremony, named *Sautrámańi*, which was the subject of the last section of the tenth chapter, occupies three other chapters from the nineteenth to the twenty-first. The prayers to be used at an *As'wamėd'ha*, or ceremony emblematic of the immolation of a horse and other animals, by a king ambitious of universal empire, are placed in four chapters, from the twenty-second to the twenty-fifth. The two next are miscellaneous chapters; the *Sautrámańi* and *Aswaméd'ha* are completed in two others; and the *Purushamed'ha*, or ceremony performed as the type of the allegorical immolation of NA'RA'YAN'A, fills the thirtieth and thirty-first chapters. The three next belong to the *Sarvaméd'ha*, or prayers and oblations for universal success. A chapter follows on the *Pitrĭméd'ha*, or obsequies in commemoration of a deceased ancestor: and the last five chapters contain such passages of this *Véda* as are ascribed to DAD'HYACH,

* *Yajush* is derived from the verb *Yaj*, to worship or adore. Another etymology is sometimes assigned: but this is most consistent with the subject; viz. *(Yajnya)* sacrifices, and *(hóma)* oblations to fire.

son or descendant of AT'HARVAN: four of them consist of prayers applicable to various religious rites, as sacraments, lustrations, penance, &c.; and the last is restricted to theology.

Excepting these five chapters, most of the passages contained in the preceding part of this collection of prayers, are attributed to divine personages: many are ascribed to the first manifested being, named PRAJA'PATI, PARAME'SHT'HI, or NA'RA'YAN'A PURUSHA; some are attributed to SWAYAMBHU' BRAHME, or the self existent himself: the reputed authors of the rest are VRIHASPATI, INDRA, VARUN'A, and the AS'WINS: except a few scattered passages, which are ascribed to VASISHT'HA, VISWA'MITRA, VA'MADE'VA, MAD'HUCH'HANDAS, ME'D'HA'TIT'HI, and other human authors; and some texts, for which no *Rishi* is specified in the index, and which are therefore assigned either to the sun (*Vivaswat* or *A'ditya*), as the deity supposed to have revealed this *Véda*; or to YA'JNYAWALCYA, as the person who received the revelation: in the same manner, as the unappropriated passages of the *Rigvéda* are assigned to PRAJA'PATI, or BRAHMA'.

Several prayers and hymns of the *Yajur-Véda* have been already translated in former essays*; and may serve as a sufficient example of the style of its composition. I shall here insert only two passages, both remarkable. The first is the beginning of the prayers of the *Sarvaméd'ha*. It constitutes the thirty-second lecture, comprising two chapters (*anuváca*) and sixteen verses.

'FIRE is THAT [original cause]; the sun is that;

* *Asiatic* Researches, Vol. V. and VII.

so is air; so is the moon: such too is that pure BRAHME, and those waters, and that lord of creatures. Moments [and other measures of time] proceeded from the effulgent person, whom none can apprehend [as an object of perception], above, around, or in the midst. Of him, whose glory is so great, there is no image: he it is, who is celebrated in various holy strains*. Even he is the god, who pervades all regions: he is the first born: it is he, who is in the womb; he, who is born; and he, who will be produced: he severally, and universally, remains with [all] persons.

'HE, prior to whom, nothing was born; and who became all beings; himself the lord of creatures, with a [body composed of] sixteen members, being delighted by creation, produced the three luminaries [the sun, the moon, and fire].

'To what God should we offer oblations, but to him, who made the fluid sky and solid earth, who fixed the solar orb *(swar)*, and celestial abode *(náca)*, and who framed drops [of rain] in the atmosphere? To what god should we offer oblations, but to him, whom heaven and earth mentally contemplate, while they are strengthened and embellished by offerings, and illuminated by the sun risen above them.

'The wise man views that mysterious [being]; in whom the universe perpetually exists, resting on that sole support. In him, this [world] is absorbed; from him, it issues: in creatures, he is twined and wove, with various forms of existence. Let the wise man, who is conversant with the

---

* The text refers to particular passages.

import of revelation*, promptly celebrate that immortal being, the mysteriously existing and various abode: he, who knows its three states [its creation, continuance and destruction], which are involved in mystery, is father of the father. That [*Brahme*], in whom the gods attain immortality, while they abide in the third [or celestial] region, is our venerable parent, and the providence which governs all worlds.

'Knowing the elements, discovering the worlds, and recognising all regions and quarters [to be him], and worshipping [speech or revelation, who is] the first-born, the votary pervades the animating spirit of solemn sacrifice by means of [his own] soul. Recognizing heaven, earth, and sky [to be him], knowing the worlds, discovering space and (*swar*) the solar orb [to be the same], he views that being: he becomes that being; and is identified with him, on completing the broad web of the solemn sacrifice.

"For opulence and wisdom, I solicit this wonderful lord of the altar, the friend of INDRA, most desirable [fire]: may this oblation be effectual. Fire! make me, this day, wise by means of that wisdom, which the gods and the fathers worship: be this oblation efficacious. May VARU'NA grant me wisdom; may fire and PRAJA'PATI confer on me sapience; may INDRA and air vouchsafe me

* For the word *Gand'harba* is here interpreted, as intending one, who investigates holy writ. In another place (*Asiatic* Researches, Vol. VII. p. 297), the same term signified the sun; and should have been so translated, instead of "heavenly quirister, or celestial chorister;" which is not the meaning in that place, though it be the most common acceptation of the word.

knowledge; may providence give me understanding: be this oblation happily offered! May the priest and the soldier both share my prosperity; may the gods grant me supreme happiness: to thee, who art that [felicity], be this oblation effectually presented.'

The next passage, which I shall cite, is a prayer to fire *.

'Thou art *(samvatsara)* the [first] year [of the cycle]; thou art *(parivatsara)* the [second] year; thou art *(idávatsara)* the [third] year; thou art *(idvat-vatsara)* the [fourth] year; thou art *(vatsara)* the [fifth] year: may mornings appertain to thee; may days and nights, and fortnights, and months, and seasons, belong to thee; may *(samvatsara)* the year be a portion of thee: to go, or to come, contracting or expanding [thyself], thou art winged thought. Together with that deity, remain thou firm like ANGIRAS.'

I have quoted this almost unmeaning passage, because it notices the divisions of time, which belong to the calendar of the *Védas*; and which are explained in treatises on that subject annexed to the sacred volume, under the title of *Jyótish*. To this I shall again advert, in a subsequent part of this essay. I shall here only observe, with the view of accounting for the seeming absurdity of the text now cited, that fire, as in another place †, sacrifice, is identified with the year and with the cycle, by reason of the near connexion between

---

* Ch. 27, § 45th, and last.

† In the *S'atapat'ha Bráhman'a*, b. 11, ch. 1. The reason, here assigned, is expressly stated by the commentator.

consecrated fire, and the regulation of time relative to religious rites; at which one is used, and which the other governs.

The fortieth and last chapter of this *Véda* is an *Upanishad*, as before intimated: which is usually called *I'sa-vásyam*, from the two initial words; and sometimes *Is'á 'dhyáya*, from the first word; but the proper title is '*Upanishad* of the *Vájasanéya sanhitá*.' The author, as before-mentioned, is DAD'HYACH, son or descendant of AT'HARVAN *. A translation of it has been published in the posthumous works of Sir WILLIAM JONES.

The second part of this *Véda*, appertaining to the *Mád'hyandina S'ác'há*, is entitled the *S'atapat'ha Bráhmaṅa*; and is much more copious than the collection of prayers. It consists of fourteen books (*cáṅda*) unequally distributed in two parts (*bhága*): the first of which contains ten books; and the second, only four. The number of lectures (*ad'hyáya*), contained in each book, varies; and so does that of the *Bráhmaṅas*, or separate precepts, in each lecture. Another mode of division, by chapters (*Prapát'aca*), also prevails throughout the volume: and the distinction of *Bráhmaṅas*, which are again subdivided into short sections (*caṅdicá*), is subordinate to both modes of division.

* Besides MAHI'D'HARA'S gloss on this chapter, in his *Védadípa*, I have the separate commentary of S'ANCARA, and one by BA'LACRISHN' 'A'NANDA, which contains a clear and copious exposition of this *Upanishad*. He professes to expound it, as it is received by both the *Cáṅwa* and *Mád'hyandina* schools. Sir WILLIAM JONES, in his version of it, used S'ANCARA'S gloss; as appears from a copy of that gloss, which he had carefully studied, and in which his hand-writing appears in more than one place.

The fourteen books, which constitute this part of the *Véda*, comprise a hundred lectures corresponding to sixty-eight chapters. The whole number of distinct articles, entitled *Bráhman'a*, is four hundred and forty: the sections *(can'dica)* are also counted, and are stated at 7624 *.

The same order is observed in this collection of precepts concerning religious rites, which had been followed in the arrangement of the prayers belonging to them. The first and second books treat of ceremonies on the full and change of the moon; the consecration of the sacrificial fire, &c. The third and fourth relate to the mode of preparing the juice of the acid *Asclepias*, and other ceremonies connected with it, as the *Jyótisht'óma*, &c. The fifth is confined to the *Vájapéya* and *Rája-súya*. The four next teach the consecration of sacrificial fire: and the tenth, entitled *Agni rahasya*, shows the benefits of these ceremonies. The three first books of the second part are stated, by the commentator †, as relating to the *Sautráman'i* and *As'waméd'ha;* and the fourth, which is the last, belongs to theology. In the original, the thirteenth book is, specially denominated *As'wamêd'hya;* and the fourteenth is entitled *Vrĭhad áran'yaca*.

The *As'wamêd'ha* and *Purushaméd'ha*, celebrated

---

* My copies of the text and of the commentary are both imperfect; but the deficiencies of one occur in places, where the other is complete; and I have been thus enabled to inspect cursorily the whole of this portion of the *Véda*.

Among fragments of this *Bráhman'a*, comprising entire books, I have one which agrees, in the substance and purport, with the second book of the *Mád'hyandina S'atapat'ha*, though differing much in the readings of almost every passage. It probably belongs to a different *S'ác'há*.

† At the beginning of his gloss on the eleventh book.

in the manner directed by this *Véda*, are not really sacrifices of horses and men. In the first mentioned ceremony, six hundred and nine animals of various prescribed kinds, domestic and wild, including birds, fish, and reptiles, are made fast; the tame ones, to twenty-one posts; and the wild, in the intervals between the pillars: and, after certain prayers have been recited, the victims are let loose without injury. In the other, a hundred and eighty-five men of various specified tribes, characters, and professions, are bound to eleven posts: and, after the hymn, concerning the allegorical immolation of NA'RA'YAN'A *, has been recited, these human victims are liberated unhurt: and oblations of butter are made on the sacrificial fire. This mode of performing the *As'wamed'ha* and *Purushaméd'ha*, as emblematic ceremonies, not as real sacrifices, is taught in this *Véda*: and the interpretation is fully confirmed by the rituals †, and by commentators on the *Sanhitá* and *Bráhman'a*; one of whom assigns as the reason, 'because the flesh of victims, which have been actually sacrificed at a *Yajnya*, must be eaten by the persons who offer the sacrifice: but a man cannot be allowed, much less required, to eat human flesh ‡.' It may be hence inferred, or conjectured at least,

---

* *Asiatic* Researches, Vol. VII, p. 251. The version of the hymn, as there given, should be amended by substituting, at the 15th verse, 'binding' for 'immolating.' A similarity of terms led to that error, which the context did not correct; for the 9th verse is rightly translated. However, to follow the commentaries strictly, even the term, which there occurs, and which properly signifies 'immolated,' may be translated, 'consecrated.'

† I particularly advert to a separate ritual of the ***Purushaméd'ha*** by YA'JNYADE'VA.

‡ Cited from memory: I read the passage several years ago; but I cannot now recover it.

that human sacrifices were not authorized by the *Véda* itself: but were either then abrogated, and an emblematical ceremony substituted in their place; or they must have been introduced in later times, on the authority of certain *Purán'as*, or *Tantras*, fabricated by persons, who, in this as in other matters, established many unjustifiable practices on the foundation of emblems and allegories, which they misunderstood.

The horse, which is the subject of the religious ceremony called *As'waméd'ha*, is also, avowedly, an emblem of *Viráj*, or the primeval and universal manifested being. In the last section of the *Taittiríya Yajurvéda*, the various parts of the horse's body are described, as divisions of time, and portions of the universe: 'morning is his head; the sun, his eye; air, his breath; the moon, his ear; &c.' A similar passage in the 14th book of the *S'atapat'ha bráhman'a* describes the same allegorical horse for the meditation of such, as cannot perform an *As'wamed'ha;* and the assemblage of living animals, constituting an imaginary victim, at a real *As'wamed'ha*, equally represent the universal being, according to the doctrines of the *Indian* scripture. It is not, however, certain, whether this ceremony did not also give occasion to the institution of another, apparently not authorized by the *Védas*, in which a horse was actually sacrificed.

The *Vrihad áran'yaca*, which constitutes the fourteenth book of the *S'atapat'ha bráhman'a*, is the conclusion of the *Vájasanéyí*, or white *Yajush*. It consists of seven chapters or eight lectures: and the five last lectures, in one arrangement, corresponding with the six last lectures in the other, form a theological treatise entitled the *Vrihad Upanishad*,

or *Vájasanéyí bráhman'a upanishad*, but more commonly cited as the *Vrïhad éran'yaca**. The greatest part of it is in dialogue; and YA'JNYAWALCYA is the principal speaker. As an *Upanishad*, it properly belongs to the *Cánwa S'ác'há*: at least, it is so cited by VIDYA'RAN'YA, in his paraphrase of *Upanishads* before-mentioned. There does not, however, appear to be any material variation in it, as received by the *Mád'hyandina* school: unless in the divisions of chapters and sections; and in the lists of successive teachers, by whom it was handed down †.

To convey some notion of the scope and style of this *Upanishad*, I shall, here, briefly indicate some of the most remarkable passages; and chiefly those which have been paraphrased by VIDYA'RAN'YA. A few others have been already cited; and the following appears likewise to deserve notice.

Towards the beginning of the *Vrïhad áran'yaca*, a passage, concerning the origin of fire hallowed for an *As'wamédha*, opens thus: 'Nothing existed in this world, before [the production of mind]: this universe was encircled by death eager to devour; for death is the devourer. He framed mind, being desirous of himself becoming endued with a soul.'

---

* Besides three copies of the text, and two transcripts of S'ANCARA's commentary, I have, also in duplicate, another very excellent commentary by NITYA'NAND' A'SRAMA, which is entitled *Mitácshará*; and a metrical paraphrase of S'ANCARA's gloss, by SURE'S'WAR'A'CHA'RYA, as well as annotations in prose by ANANDA GIRI.

† This is the *Upanishad*, to which Sir WILLIAM JONES refers, in his preface to the translation of the Institutes of MENU: p. viii.

Here the commentators explain death to be the intellectual being who sprung from the golden mundane egg: and the passage before cited from the `*Rigvéda**, where the primeval existence of death is denied, may be easily reconciled with this, upon the *Indian* ideas of the periodical destruction and renovation of the world, and finally of all beings but the supreme one.

The first selection by VIDYA'RAN'YA, from this *Upanishad*, is the fourth article *(bráhman'a,)* of the third lecture of the *Vrihad áran'yaca*. It is descriptive of VIRA'J, and begins thus:

'This [variety of forms] was, before [the production of body], soul, bearing a human shape. Next, looking around, that [primeval being] saw nothing but himself; and he, first, said "I am I." Therefore, his name was "I:" and, thence, even now, when called, [a man] first answers "it is I," and then declares any other name which appertains to him.

'Since he, being anterior to all this [which seeks supremacy], did consume by fire all sinful [obstacles to his own supremacy], therefore does the man, who knows this [truth], overcome him, who seeks to be before him.

'He felt dread; and, therefore, man fears, when alone. But he reflected, "Since nothing exists besides myself, why should I fear?" Thus his terror departed from him; for what should he dread, since fear must be of another?

---

* Page 404.

'He felt not delight; and, therefore, man delights not, when alone. He wished [the existence of] another; and instantly he became such, as is man and woman in mutual embrace. He caused this, his own self, to fall in twain; and thus became a husband and a wife. Therefore, was this [body, so separated], as it were an imperfect moiety of himself: for so YA'JNYAWALCYA has pronounced it. This blank, therefore, is completed by woman. He approached her; and, thence, were human beings produced.

'She reflected, doubtingly; "how can he, having produced me from himself, [incestuously] approach me? I will now assume a disguise." She became a cow; and the other became a bull, and approached her; and the issue were kine. She was changed into a mare, and he into a stallion; one was turned into a female ass, and the other into a male one: thus did he again approach her; and the one-hoofed kind was the offspring. She became a female goat, and he a male one; she was an ewe, and he a ram: thus he approached her; and goats and sheep were the progeny. In this manner, did he create every existing pair whatsoever, even to the ants [and minutest insect].'

The sequel of this passage is also curious; but is too long to be here inserted. The notion of VIRA'J dividing his own substance into male and female, occurs in more than one *Purán'a*. So does that of an incestuous marriage and intercourse of the first MENU with his daughter S'ATARUPA': and the commentators on the *Upanishad* understand that legend to be alluded to in this place. But the institutes, ascribed to MENU, make VIRA'J to be the issue of such a separation of persons,

and MENU himself to be his offspring*. There is, indeed, as the reader may observe from the passages cited in the present essay, much disagreement and consequent confusion, in the gradation of persons interposed by *Hindu* theology between the supreme being and the created world.

The author of the paraphrase before-mentioned, has next selected three dialogues from the fourth lecture or chapter of the *Vrïhadáraṅyaca.* In the first, which begins the chapter and occupies three articles *(Bráhmanas)*, a conceited and loquacious priest, named BA'LA'CI (from his mother BALA'CA'), and GA'RGYA (from his ancestor GARGA), visits AJA'TAS'ATRU, king of *Cás'í*, and offers to communicate to him the knowledge of GOD. The king bestows on him a liberal recompense for the offer; and the priest unfolds his doctrine, saying he worships, or recognises, as GOD, the being who is manifest in the sun; him, who is apparent in lightning, in the etherial elements, in air, in fire, in water, in a mirror, in the regions of space, in shade, and in the soul itself. The king who was, as it appears, a well instructed theologian, refutes these several notions, successively; and, finding the priest remain silent, asks "is that all you have to say?" GA'RGYA replies, "that is all." Then, says the king, "that is not sufficient for the knowledge of God." Hearing this, GA'RGYA proposes to become his pupil. The king replies, "It would reverse established order, were a priest to attend a soldier in expectation of religious instruction: but I will suggest the knowledge to you." He

* See Sir W. JONES's translation of MENU. Ch. 1, v. 32 and 33.

takes him by the hand; and, rising, conducts him to a place, where a man was sleeping. He calls the sleeper by various appellations suitable to the priest's doctrine; but without succeeding in awakening him: he then rouses the sleeper by stirring him; and, afterwards, addressing the priest, asks, "While that man was thus asleep, where was his soul, which consists in intellect? and whence came that soul when he was awakened?" GA'RGYA could not solve the question: and the king then proceeds to explain the nature of soul and mind, according to the received notions of the *Védánta.* As it is not the purpose of this essay to consider those doctrines, I shall not here insert the remainder of the dialogue.

The next, occupying a single article, is a conversation between YA'JNYAWALCYA, and his wife, MAITRE'YI'. He announces to her his intention of retiring from the civil world; requests her consent, and proposes to divide his effects between her, and his second wife, CA'TYA'YANI'. She asks, "Should I become immortal, if this whole earth, full of riches, were mine?" "No," replies YA'JNYAWALCYA, "riches serve for the means of living; but immortality is not attained through wealth." MAITRE'YI' declares she has no use, then, for that, by which she may not become immortal; and solicits from her husband the communication of the knowledge, which he possesses, on the means, by which beatitude may be attained. YA'JNYAWALCYA, answers, "Dear wert thou to me; and a pleasing [sentiment] dost thou make known: come, sit down; I will expound [that doctrine]; do thou endeavour to comprehend it." A discourse follows, in which YA'JNYAWALCYA elucidates the notion, that abstraction procures immortality; because affections are relative to the

soul, which should therefore be contemplated and considered in all objects, since every thing is soul; for all general and particular notions are ultimately resolvable into one, whence all proceed, and in which all merge; and that is identified with the supreme soul, through the knowledge of which beatitude may be attained.

I shall select, as a specimen of the reasoning in this dialogue, a passage, which is material on a different account; as it contains an enumeration of the *Védas*, and of the various sorts of passages, which they comprise; and tends to confirm some observations hazarded at the beginning of this essay.

'As smoke, and various substances, separately issue from fire lighted with moist wood; so, from this great being, were respired the *Rĭgvéda*, the *Yajurvéda*, the *Sámavéda*, and the *At'harvan* and *Angiras;* the *Itihása* and *Purána;* the sciences and *Upanishads;* the verses and aphorisms; the expositions and illustrations: all these were breathed forth by him.'

The commentators remark, that four sorts of prayers *(Mantra)*, and eight kinds of precepts *(Bráhmana)* are here stated. The fourth description of prayers comprehends such, as were revealed to, or discovered by, AT'HARVAN and ANGIRAS: meaning the *A't'harvana véda.* The *Itihása* designates such passages in the second part of the *Védas* entitled *Bráhman'a*, as narrate a story: for instance, that of the nymph URVAS'I' and the king PURURAVAS. The *Purán'a* intends those, which relate to the creation and similar topics. "Sciences" are meant of religious worship. "Verses" are memorial lines. "Aphorisms" are short sentences in a concise style. "Expositions" interpret

such sentences; and "illustrations" elucidate the meaning of the prayers.

It may not be superfluous to observe in this place, that the *Itihása* and *Purán'as*, here meant, are not the mythological poems bearing the same title; but certain passages of the *Indian* scriptures, which are interspersed among others, throughout that part of the *Védas*, called *Bráhmana*, and instances of which occur in more than one quotation in the present essay.

The dialogue between Yájnyáwalcya and Maitreyí, above-mentioned, is repeated towards the close of the sixth lecture, with a short and immaterial addition to its introduction. In this place, it is succeeded by a discourse on the unity of the soul: said, towards the conclusion, to have been addressed to the two *A'swins*, by Dad'hyach, a descendant of At'harvan.

The fourth lecture ends with a list of the teachers, by whom that and the three preceding lectures, were handed down, in succession, to Pautimáshya. It begins with him, and ascends, through forty steps, to Ayásya; or, with two more intervening persons, to the *A'swins;* and from them, to Dad'hyach, At'harvan, and Mrityu, or death; and, through other gradations of spirits, to Viráj; and finally to Brahme. The same list occurs again at the end of the sixth lecture: and similar lists are found in the corresponding places of this *Upanishad,* as arranged for the *Mád'hyandina 'Sác'há.* The succession is there traced upwards, from the reciter of it, who speaks of himself in the first person, and from his immediate teacher Sauryanáyya, to the same ori-

ginal revelation, through nearly the same number of gradations. The difference is almost entirely confined to the first ten or twelve names*.

The fifth and sixth lectures of this *Upanishad* have been paraphrased, like the fourth, by the author before-mentioned. They consist of dialogues, in which YA'JNYAWALCYA is the chief discourser.

'JANACA, a king paramount, or emperor of the race of *Vidéhas*, was celebrating at great expense, a solemn sacrifice, at which the *Bráhmanas* of *Curu* and *Panchála* were assembled; and the king, being desirous of ascertaining which of those priests was the most learned and eloquent theologian, ordered a thousand cows to be made fast in his stables, and their horns to be gilt with a prescribed quantity of gold. He then addressed the priests, "whoever, among you, O venerable *Bráhmanas*, is most skilled in theology, may take the cows." The rest presumed not to touch the cattle; but YA'JNYAWALCYA bade his pupil SA'MAS'RAVAS drive them to his home. He did so; and the priests were indignant, that he should thus arrogate to himself superiority. AS'WALA, who was the king's officiating priest, asked him, "art

* I do not find VYA'SA mentioned in either list: nor can the surname *Párásarya*, which occurs more than once, be applied to him; for it is not his patronymick, but a name deduced from the feminine patronymick *Párásarí*. It seems therefore questionable, whether any inference, respecting the age of the *Védas*, can be drawn from these lists, in the manner proposed by the late Sir W. JONES, in his preface to the translation of MENU (p. viii.). The anachronisms, which I observe in them, deter me from a similar attempt to deduce the age of this *Véda* from these and other lists, which will be noticed further on.

thou, O YA'JNYAWALCYA! more skilled in theology than we are?" He replied, "I bow to the most learned; but I was desirous of possessing the cattle."

This introduction is followed by a long dialogue, or rather by a succession of dialogues, in which six other rival priests (besides a learned female, named GA'RGI', the daughter of VACHACRU;) take part as antagonists of YA'JNYAWALCYA; proposing questions to him, which he answers; and, by refuting their objections, silences them successively. Each dialogue fills a single article (*Bráhmana);* but the controversy is maintained by GA'RGI' in two separate discussions; and the contest between YA'JNYAWALCYA and VIDAGD'HA, surnamed SA'CALYA, in the ninth or last article of the fifth lecture, concludes in a singular manner.

YA'JNYAWALCYA proposes to his adversary an abstruse question, and declares, "if thou dost not explain this unto me, thy head shall drop off." 'SA'CALYA (proceeds the text) could not explain it; and his head did fall off; and robbers stole his bones, mistaking them for some other thing.'

YA'JNYAWALCYA then asks the rest of his antagonists, whether they have any question to propose, or are desirous, that he should propose any. They remain silent, and he addresses them as follows:

"Man is indeed like to a lofty tree: his hairs are the leaves; and his skin, the cuticle. From his skin flows blood, like juice from bark; it issues from his wounded person, as juice from a stricken tree. His flesh is the inner bark; and the membrane, near the bones, is the white sub-

stance of the wood *. The bones within are the wood itself: and marrow and pith are alike. If then a felled tree spring anew from the root; from what root does mortal man grow again, when hewn down by death? Do not say, from prolific seed; for that is produced from the living person. Thus, a tree, indeed, also springs from seed; and likewise sprouts afresh [from the root] after [seemingly] dying: but, if the tree be torn up by the root, it doth not grow again. From what root, then, does mortal man rise afresh, when hewn down by death? [Do you answer] He was born [once for all]? No; he is born [again]: and [I ask you] what is it, that produces him anew?"

The priests, thus interrogated, observes the commentator, and being unacquainted with the first cause, yielded the victory to YA'JNYAWALCYA. Accordingly, the text adds a brief indication of the first cause as intended by that question. 'BRAHME, who is intellect with [the unvaried perception of] felicity, is the best path [to happiness] for the generous votary, who knows him, and remains fixed [in attention].'

The sixth lecture comprises two dialogues between YA'JNYAWALCYA, and the king JANACA; in which the saint communicates religious instruction to the monarch, after inquiring from him the doctrines which had been previously taught to the king by divers priests.

These are followed by a repetition of the dialogue between YA'JNYAWALCYA and his wife MAITRE'YI'; with scarcely a variation of a single

---

* *Snáva* and *Cinát'a* answering to the *Periosteum* and *Alburnum*.

Baſsia Butyracea.

word, except the introduction as above-mentioned. The sixth lecture concludes with repeating the list of teachers, by whom, successively, this part of the *Véda* was taught.

Concerning the remainder of the *Vrïhad áran'yaca*, I shall only observe, that it is terminated by a list of teachers, in which the tradition of it is traced back from the son of PAUTIMA'SHI', through forty steps, to YA'JNYAWALCYA; and, from him, through twelve more, to the sun. In copies belonging to the *Mád'hyandina Sác'há*, the list is varied, interposing more gradations, with considerable difference in the names, from the reciter who speaks in the first person, and his teacher, the son of BHA'RADWA'JI', up to YA'JNYAWALCYA; beyond whom both lists agree.

The copy, belonging to the *Cánwa Sác'há*, subjoins a further list stated by the commentators, to be common to all the *Sác'hás* of the *Vájin*, or *Vájasanéyi Yajurvéda*, and to be intended for the tracing of that *Véda* up to its original revelation. It begins from the son of SA'NJI'VI', who was fifth, descending from YA'JNYAWALCYA, in the lists above-mentioned; and it ascends by ten steps, without any mention of that saint, to TURA, surnamed ÇA'VASHE'YA, who had the revelation from PRAJA'PATI; and he, from BRAHME.

Before I proceed to the other *Yajurvéda*, I think it necessary to remark, that the *Indian* saint last mentioned (TURA, son of CAVASHA) has been named in a former quotation from the *Aitaréya*, as the priest who consecrated JANAME'JAYA, son of PARICSHIT. It might, at the first glance, be hence concluded that he was contemporary with the celebrated king, who is stated in *Hindu* his-

tory to have reigned at the beginning of the *Cali* age. But, besides the constant uncertainty respecting *Indian* saints, who appear and re-appear in heroic history at periods most remote, there is in this, as in many other instances of the names of princes, a source of confusion and possible error, from the recurrence of the same name, with the addition even of the same patronymic, for princes remote from each other. Thus, according to *Puránas*, PARICSHIT, third son of CURU, had a son named JANAME'JAYA; and he may be the person here meant, rather than one of the same name, who was the great grandson of ARJUNA.

On the BLACK YAJURVE'DA.

THE *Taittiríya*, or black *Yajush*, is more copious (I mean, in regard to *mantras,*) than the white *Yajush*, but less so than the *Rĭgvéda*. Its *Sanhitá*, or collection of prayers, is arranged in seven books *(asht'aca*, or *cán'da)*, containing from five to eight lectures, or chapters *(ad'hyáya, prasna*, or *prapát'aca)*. Each chapter, or lecture, is subdivided into sections *(anuváca)*, which are equally distributed in the third and sixth books; but unequally in the rest. The whole number exceeds six hundred and fifty.

Another mode of division, by *cán'das*, is stated in the index. In this arrangement, each book *(cán'da)* relates to a separate subject; and the chapters *(prasna)*, comprehended in it, are enumerated and described. Besides this, in the *Sanhitá* itself, the texts contained in every section

are numbered; and so are the syllables in each text.

The first section (*anuváca*), in this collection of prayers, corresponds with the first section (*can'dicá*) in the white *Yajush**: but all the rest differ; and so does the arrangement of the subjects. Many of the topics are indeed alike in both *Védas*; but differently placed, and differently treated. Thus the ceremony called *Rájasúya* occupies one *cán'da*, corresponding with the eighth *pras'na* of the first book (*Asht'aca*); and is preceded by two *cán'das*, relative to the *Vájapéya*, and to the mode of its celebration, which occupy fourteen sections in the preceding *pras'na*. Consecrated fire is the subject of four *cán'das*, which fill the fourth and fifth books. Sacrifice (*ad'hwara*) is noticed in the second and third lectures of the first book, and in several lectures of the sixth. The subject is continued in the seventh and last book; which treats largely on the *Jyótisht'óma*, including the forms of preparing and drinking the juice of acid Asclepias. The *As'wamêd'ha*, *Nrĭméd'ha*, and *Pitrĭméd'ha*, are severally treated of in their places; that is, in the collection of prayers †, and in the second part of this *Véda*. Other topics, introduced in different places, are numerous; but it would be tedious to specify them at large.

Among the *Rĭshis* of the texts, I observe no human authors: nine entire *cán'das*, according to the

---

* Translated in a former essay, with the first verse in each of the three other *Védas*. *Asiatic* Researches, Vol. V, p. 364.

† The prayers of the *Aswamêd'ha* occur in the concluding sections, between the 12th section of the 4th chapter, and the end of the fifth chapter of the 7th and last book.

second arrangement indicated by the index, appear to be ascribed to PRAJA'PATI, or the lord of creatures; as many to SO'MA, or the moon; seven to AGNI, or fire; and sixteen to all the gods. Possibly some passages may be allotted by the commentators to their real authors, though not pointed out by the index for the *A'tréyì S'ác'há.*

Several prayers from this *Véda* have been translated in former essays *. Other very remarkable passages have occurred on examining this collection of *Mantras* †. The following, from the seventh and last book ‡, is chosen as a specimen of the *Taittiríya Yajurvéda.* Like several before-cited, it alludes to the *Indian* notions of the creation; and, at the risk of sameness, I select passages relative to that topic, on account of its importance in explaining the creed of the ancient *Hindu* religion. The present extract was recommended for selection by its allusion to a mythological notion, which apparently gave origin to the story of the *Varáha-avatára;* and from which an astronomical period, entitled *Calpa*, has perhaps been taken §.

'Waters [alone] there were; this world originally was water. In it the lord of creation moved, having become air: he saw this [earth]; and upheld it, assuming the form of a boar *(varâha);* and then moulded that [earth], becoming VIS'WACARMAN, the artificer of the universe. It became

* *Asiatic* Researches, Vol. V, and VII.

† I have several complete copies of the text; but only a part of the commentary by SA'YANA.

‡ Book VII, Chapter 1, Section 5.

§ One of the *Calpas*, or renovations of the universe, is denominated *Váráha.*

celebrated *(aprat'hata)*, and conspicuous *(prĭt'hiví)*; and therefore is that name *(Prĭthiví)* assigned to the earth.

'The lord of creation meditated profoundly on the earth; and created the gods, the *Vasus*, *Rudras*, and *'Adityas*. Those gods addressed the lord of creation, saying; "How can we form creatures?" He replied, "As I created you by profound contemplation *(tapas)*; so do you seek in devotion *(tapas)*, the means of multiplying creatures." He gave them consecrated fire, saying, "With this sacrificial fire, perform devotions." With it they did perform austerities; and, in one year, framed a single cow. He gave her to the *Vasus*, to the *Rudras*, and to the *'Adityas*, [successively]: bidding them 'guard her.' The *Vasus*, the *Rudras*, and the *'Adityas*, [severally] guarded her; and she calved, for the *Vasus*, three hundred and thirty-three [calves]; and [as many] for the *Rudras*; and [the same number] for the *'Adityas*: thus was she the thousandth.

'They addressed the lord of creation, requesting him to direct them in performing a solemn act of religion with a thousand [kine for a gratuity]. He caused the *Vasus* to sacrifice with the *Agnisht'oma*; and they conquered this world, and gave it [to the priests]: he caused the *Rudras* to sacrifice with the *Uct'hya*; and they obtained the middle region, and gave it away [for a sacrificial fee]: he caused the *'Adityas* to sacrifice with the *Atirátra*; and they acquired that [other] world, and gave it [to the priests for a gratuity].'

This extract may suffice. Its close, and the remainder of the section, bear allusion to certain religious ceremonies, at which a thousand cows must be given to the officiating priests.

To the second part of this *Véda** belongs an *A'ran'ya*, divided, like the *Sanhitá*, into lectures *(pras'na)*, and again subdivided into chapters *(anuváca)*, containing texts, or sections, which are numbered, and in which the syllables have been counted. Here also a division by *can'das*, according to the different subjects, prevails. The six first lectures, and their corresponding *can'das*, relate to religious observances. The two next constitute three *Upanishads;* or, as they are usually cited, two: one of which is commonly entitled the *Taittiríyaca Upanishad;* the other is called the *Náráyan'a*, or, to distinguish it from another belonging exclusively to the *At'harvavéda*, the great *(Máha*, or *Vrihan,) náráyan'a*. They are all admitted in collections of theological treatises appendant on the *At'harvan'a;* but the last-mentioned is there subdivided into two *Upanishads*.

For a further specimen of this *Yajurvéda*, I shall only quote the opening of the third and last chapter of the *Várun'i*, or second *Taittiríyaca Upanishad*, with the introductory chapter of the first†.

Bhrigu, the offspring of Varun'a, approached his father, saying, "Venerable [father]! make known to me *Brahme*." Varun'a propounded these: namely, food [or body], truth [or life], sight, hearing, mind [or thought], and speech:

---

* The *Taittiríya*, like other *Védas*, has its *Bráhman'a:* and frequent quotations from it occur in the commentary on the prayers, and in other places. But I have not yet seen a complete copy of this portion of the *Indian* sacred books.

† I use several copies of the entire *A'ran'ya*, with Sancara's commentary on the *Taittiríya Upanishad*, and annotations on his gloss by Anandajnya'na: besides separate copies of that, and of the *Mahánaráyana;* and a commentary on the *Várun'i Upanishad*, entitled *Laghu dípicá*.

and thus proceeded, "That, whence all beings are produced; that, by which they live when born; that, towards which they tend; and that, into which they pass; do thou seek, [for] that is *Brahme.*"

'He meditated [in] devout contemplation; and, having thought profoundly, he recognised food [or body] to be *Brahme:* for all beings are indeed produced from food; when born, they live by food; towards food they tend; they pass into food. This he comprehended; [but yet unsatisfied] he again approached his father VARUN'A, saying, "Venerable [father]! make known to me *Brahme.*" VARUN'A replied, "Seek the knowledge of *Brahme* by devout meditation: *Brahme* is profound contemplation."

'Having deeply meditated, he discovered breath [or life] to be *Brahme;* for all these beings are indeed produced from breath; when born, they live by breath; towards breath they tend; they pass into breath. This he understood: [but] again he approached his father VARUN'A, saying, "Venerable [father]! make known to me BRAHME." VARUN'A replied, "Seek him by profound meditation: *Brahme* is that."

'He meditated in deep contemplation, and discovered intellect to be *Brahme:* for all these beings are indeed produced from intellect; when born, they live by intellect; towards intellect they tend; and they pass into intellect. This he understood: [but] again he came to his father VARUN'A, saying, "Venerable [father]! make known to me *Brahme.*" VARUN'A replied, "Inquire by devout contemplation: profound meditation is *Brahme.*"

'He thought deeply; and, having thus meditated [with] devout contemplation, he knew *Ananda* [or felicity] to be *Brahme:* for all these beings are indeed produced from pleasure; when born, they live by joy; they tend towards happiness; they pass into felicity.

'Such is the science which was attained by BHRĬGU, taught by VARUN'A, and founded on the supreme etherial spirit. He who knows this, rests on the same support; is endowed with [abundant] food; and becomes [a blazing fire], which consumes food: great he is by progeny, by cattle, and by holy perfections; and great by propitious celebrity.'

The above is the beginning of the last chapter of the *Várun'í Upanishad.* I omit the remainder of it. The first *Taittiríyaca Upanishad* opens with the following prayer. 'May MITRA [who presides over the day], VARUN'A [who governs the night], ARYAMAN [or the regent of the sun and of sight], INDRA [who gives strength], VRĬHASPATI [who rules the speech and understanding], and VISHN'U, whose step is vast, grant us ease. [I] bow to *Brahme.* Salutation unto thee, O air! Even thou art *Brahme,* present [to our apprehension]. Thee I will call, "present *Brahme:*" thee I will name, "the right one:" thee I will pronounce, "the true one." May THAT [*Brahme,* the universal being entitled air], preserve me; may that preserve the teacher: propitious be it*.

* I have inserted here, as in other places, between crotchets, such illustrations from the commentary, as appear requisite to render the text intelligible.

On other UPANISHADS *of the* YAJURVE'DA.

Among the *Sác'hás* of the *Yajurvéda*, one entitled *Maitráyaṅí*, furnishes an *Upanishad*, which bears the same denomination. An abridged paraphrase of it, in verse *, shows it to be a dialogue in which a sage, named S'A'CA'YANA, communicates to the king VRIHADRAT'HA, theological knowledge derived from another sage, called MAITRA.

A different *Sác'há* of this *Véda*, entitled the *Cat'ha*, or *Cát'haca*, furnishes an *Upanishad* bearing that name; and which is one of those most frequently cited by writers on the *Védánta*. It is an extract from a *Bráhmaṅa*; and also occurs in collections of *Upanishads* appertaining to the *At'harvaṅa*.

S'WE'TA'S'WATARA, who has given his name to one more *Sác'há* of the *Yajurvéda*, from which an *Upanishad* is extracted †, is introduced in it, as teaching theology. This *Upanishad*, comprised in six chapters or lectures *(ad'hyáya)*, is found in collections of theological tracts appertaining to the *At'harvavéda*; but, strictly, it appears to belong exclusively to the *Yajush*.

---

* By VIDYA'RAN'YA. I have not seen the original.

† In the abridgment of it by *Vidyáranya*, this is the description given of the *S'wétás'wara Upanishad*.

On the SA'MAVE'DA.

A peculiar degree of holiness seems to be attached, according to *Indian* notions, to the *Sáma-véda;* if reliance may be placed on the inference suggested by the etymology of its name, which indicates, according to the derivation * usually assigned to it, the efficacy of this part of the *Védas* in removing sin. The prayers, belonging to it, are, as before observed, composed in metre, and intended to be chanted, and their supposed efficacy is apparently ascribed to this mode of uttering them.

Not having yet obtained a complete copy of this *Véda*, or of any commentary on it, I can only describe it, imperfectly, from such fragments as I have been able to collect.

A principal, if not the first, part of the *Sáma-véda* is that entitled *A'rchica.* It comprises prayers, among which I observe many, that constantly recur in rituals of *Sámavédíya*, or *Ch'handóga* priests, and some of which have been translated in former essays †. They are here arranged, as appears from two copies of the *A'rchica* ‡, in six chapters *(prapát'aca)* subdivided into half chapters, and into sections *(das'atí)*; ten in each chapter, and usually

---

* From the root *Shó*, convertible into *só* and *sá*, and signifying 'to destroy.' The derivative is expounded as denoting something 'which destroys sin.'

† *Asiatic* Researches, Vol. V. and VII.

‡ One of them dated nearly two centuries ago, in 1672 *Samvat.* This copy exhibits the further title of *Ch'handasí Sanhitá.*

containing the exact number of ten verses each. The same collection of prayers, in the same order, but prepared for chanting, is distributed in seventeen chapters, under the title of the *Grámagéya gána*. That, at least, is its title in the only copy which I have seen. But rituals, directing the same prayers to be chanted, employ the designation of *A'rchica gána*, among other terms applicable to various modes of rhythmical recitation.

Another portion of the *Sámavéda*, arranged for chanting, bears the title of *A'ranya gana*. Three copies of it *, which seem to agree exactly, exhibit the same distribution into three chapters, which are subdivided into half chapters and decades or sections, like the *A'rchica* above-mentioned †. But I have not yet found a plain copy of it, divested of the additions made for guidance in chanting it.

The additions here alluded to, consist in prolonging the sounds of vowels, and resolving diphthongs into two or more syllables, inserting likewise, in many places, other additional syllables, besides placing numerical marks for the management of the voice. Some of the prayers, being subject to variation in the mode of chanting them, are repeated, once or oftener, for the purpose of showing these differences; and, to most, are prefixed the appropriate names of the several passages.

---

* The most ancient of those in my possession, is dated nearly three centuries ago, in 1587 *Samvat*.

† This *A'ranya* comprises nearly three hundred verses (*Sáman*), or exactly 290. The *A'rchica* contains twice as many, or nearly 600.

Under the title of *A'rshaya Brahman'a*, I have found what seems to be an index of these two portions of the *Sámavéda.* For the names of the passages, or sometimes the initial words, are there enumerated in the same order, in which they occur in the *Gráma géya*, or *A'rchica*, followed by the *A'ran'ya gána.* This index does not, like the explanatory tables of the other *Védas*, specify the metre of each prayer, the deity addressed in it, and the occasion on which it should be used; but only the *Rĭshi*, or author: and, from the variety of names stated in some instances, a conclusion may be drawn, that the same texts are ascribable to more than one author.

It has been already hinted, that the modes of chanting the same prayers are various, and bear different appellations. Thus, the rituals frequently direct certain texts of this *Véda* to be first recited simply, in a low voice, according to the usual mode of inaudible utterance of the *Védas;* and then to be similarly chanted, in a particular manner, under the designation of *A'rchica gána;* showing, however, divers variations and exceptions from that mode, under the distinct appellation of *Aniructa gána**. So, likewise, or nearly the same passages, which are contained in the *A'rchica* and *Grámagéya*, are arranged in a different order, with further variations as to the mode of chanting them, in another collection named the *Uha gána.*

From the comparison and examination of these parts of the *Sámavéda*, in which, so far as the collation of them has been carried, the texts appear

* The ritual, which is the chief authority for this remark, is one by SA'YAN' A'CHAR'YA, entitled *Yajnyatantra Sud'hánid'hi.*

to be the same, only arranged in a different order, and marked for a different mode of recitation, I am led to think, that other collections, under similar names *, may not differ more widely from the *A'rchica* and *Aran'ya* above-mentioned: and that these may possibly constitute the whole of that part of the *Sámavéda*, which corresponds to the *Sanhitás* of other *Védas*.

Under the denomination of *Bráhman'a*, which is appropriated to the second part or supplement of the *Véda*, various works have been received by different schools of the *Sámavéda*. Four appear to be extant; three of which have been seen by me, either complete or in part. One is denominated *Shádvins'a*; probaby from its containing twenty-six chapters. Another is called *Adbhúta*, or, at greater length, *Adbhúta Bráhman'a*. The only portion, which I have yet seen, of either, has the appearance of a fragment, and breaks off at the close of the fifth chapter: both names are there introduced, owing, as it should seem, to some error; and I shall not attempt to determine which of them it really belongs to. A third *Bráhman'a* of this *Véda* is termed *Panchavins'a*; so named, probably, from the number of twenty-five chapters comprised in it: and I conjecture this to be the same with one in my possession not designated by any particular title, but containing that precise number of chapters.

---

* Sir ROBERT CHAMBERS's copy of the *Sámavéda* comprised four portions, entitled *Gána*, the distinct names of which, according to the list received from him, are *Vigána A'rná*, *Végana*, *Ugána*, and *Uhya gana*. The first of these, I suspect to be the *A'ranya*, written in that list, *A'rná*: the last seems to be the same with that which is in my copy denominated *Uha gána*.

The best known among the *Bráhman'as* of the *Sámavéda*, is that entitled *Tán'dya*. It was expounded by SA'YAN'A'CHA'RYA; but a fragment of the text with his commentary, including the whole of the second book *(panjicá)*, from the sixth to the tenth lecture, is all that I have been yet able to procure. This fragment relates to the religious ceremony named *Agnisht'óma*. I do not find in it, nor in other portions of the *Sámavéda* before described, any passage, which can be conveniently translated as a specimen of the style of this *Véda*.

Leaving, then, the *Mantras* and *Bráhman'as* of the *Sámavéda*, I proceed to notice its principal *Upanishad*, which is one of the longest and most abstruse compositions bearing that title.

The *Ch'hándógya Upanishad* contains eight chapters *(prapátacas)*, apparently extracted from some portion of the *Bráhman'a*, in which they are numbered from three to ten *. The first and second, not being included in the *Upanishad*, probably relate to religious ceremonies. The chapters are unequally subdivided into paragraphs or sections; amounting, in all, to more than a hundred and fifty.

A great part of the *Ch'hándógya* † is in a didactic form: including, however, like most of the other *Upanishads*, several dialogues. The beginning of one, between SANATCUMA'RA and NA'REDA,

* I have several copies of the text, with the gloss of S'ANCARA, and annotations on it by ANANDAJNYA'NAGIRI; besides the notes of VYA'SATI'RT'HA on a commentary by ANANDATI'RT'HA.

† Its author, indicated by VYA'SATI'RT'HA, is HAYAGRI'VA.

which occupies the whole of the seventh chapter*, has been already quoted. The preceding chapter consists of two dialogues between SWE'TACE'TU, grandson of ARUN'A, and his own father, UDDALACA, the son of ARUN'A. These had been prepared in the fifth chapter, where PRAVA'HANA, son of JÍVALA, convicts S'WE'TACE'TU of ignorance in theology: and where that conversation is followed by several other dialogues, intermixed with successive references for instruction. The fourth chapter opens with a story respecting JA'NAS'RUTI, grandson of PUTRA; and, in this and the fifth chapter, dialogues, between human beings, are interspersed with others in which the interlocutors are either divine or imaginary persons. The eighth or last chapter contains a disquisition on the soul, in a conference between PRAJA'PATI and INDRA.

I shall here quote, from this *Upanishad*, a single dialogue belonging to the fifth chapter.

'PRA'CHI'NAS'A'LA, son of UPAMANYU, SATYAYAJNYA, issue of PULUSHA, INDRADYUMNA, offspring of BHALLAVI, JANA descendant of S'ARCARA'CSHYA, and VUDILA sprung from AS'WATARA'S'WA, being all persons deeply conversant with holy writ, and possessed of great dwellings, meeting together, engaged in this disquisition, "What is our soul? and who is *Brahme*?"

'These venerable persons reflected, "UDDA'LACA, the son of ARUN'A, is well acquainted with the universal soul: let us immediately go to him."

* That is the seventh of the extract which constitutes this *Upanishad*; but the ninth, according to the mode of numbering the chapters, in the book, whence it is taken.

They went: but he reflected, "these great and very learned persons will ask me; and I shall not [be able] to communicate the whole [which they inquire]: I will at once indicate to them another [instructor]." He thus addressed them, "As'WAPATI, the son of CE'CAYA, is well acquainted with the universal soul; let us now go to him."

"They all went; and, on their arrival, [the king] caused due honours to be shown to them respectively; and, next morning, civilly dismissed them; [but, observing that they staid, and did not accept his presents,] he thus spoke: "In my dominions, there is no robber; nor miser; no drunkard; nor any one neglectful of a consecrated hearth; none ignorant; and no adulterer, nor adulteress. Whence [can you have been aggrieved]?" [As they did not state a complaint, he thus proceeded;] "I must be asked, O venerable men! [for what you desire]." [Finding, that they made no request, he went on;] "As much as I shall bestow on each officiating priest, so much will I also give to you. Stay then, most reverend men." They answered: "It is indeed requisite to inform a person of the purpose of a visit. Thou well knowest the universal soul; communicate that knowledge unto us." He replied; "To-morrow I will declare it to you." Perceiving his drift, they, next day, attended him, bearing [like pupils] logs of firewood. Without bowing to them, he thus spoke:—

"Whom dost thou worship as the soul, O son of UPAMANYU?" "Heaven," answered he, "O venerable king!" "Splendid is that [portion of the] universal self, which thou dost worship as the soul: therefore, in thy family, is seen [the juice of the acid asclepias] drawn, expressed, and pre-

pared, [for religious rites]; thou dost consume food [as a blazing fire]; and dost view a [son or other] beloved object. Whoever worships this for the universal soul, similarly enjoys food, contemplates a beloved object, and finds religious occupations in his family. But this is [only] the head of the soul. Thy head had been lost," added the king, " hadst thou not come to me."

'He now turned to SATYAYAJNYA, the son of PULUSHA, saying; " Whom dost thou worship as the soul, O descendant of PRACHINAYÓGA?" " The sun," answered he, " O venerable king!" " Varied is that [portion of the] universal self, which thou dost worship as the soul; and, therefore, in thy family, many various forms are seen; a car yoked with mares, and treasure, together with female slaves, surround thee; thou dost consume food, and contemplate a pleasing object. Whoever worships this, for the universal soul, has the same enjoyments, and finds religious occupations in his family. But this is only the eye of soul. Thou hadst been blind," said the king, " hadst thou not come to me."

'He next addressed INDRADYUMNA, the son of BHALLAVI: " Whom dost thou worship as the soul, O descendant of VY'AGHRAPAD." " Air," replied he, " O venerable king!" " Diffused is that portion of the universal self, which thou dost worship as the soul; numerous offerings reach thee; many tracts of cars follow thee: thou dost consume food: thou viewest a favourite object. Whoever worships this, for the universal soul, enjoys food and contemplates a beloved object: and has religious occupations in his family. But this is only the breath of soul. Thy breath had expired," said the king, " hadst thou not come to me."

'He then interrogated JANA, the son of SARCARA'CSHYA: "Whom dost thou worship as the soul, O son of SARCARA'CSHYA?" "The etherial element," said he, "O venerable king!" "Abundant is that universal self, whom thou dost worship as the soul; and, therefore, thou likewise dost abound with progeny and wealth. Thou dost consume food; thou viewest a favourite object. Whoever worships this, for the universal soul, consumes food, and sees a beloved object; and has religious occupations in his family. But this is only the trunk of soul. Thy trunk had corrupted," said the king, "hadst thou not come to me."

'He afterwards inquired of VUDILA, the son of AS'WATARA'SWA: "Whom dost thou worship as the soul, O descendant of VYA'GHRAPAD?" "Water," said he, "O venerable king!" "Rich is that universal self, whom thou dost worship as the soul; and, therefore, art thou opulent and thriving. Thou dost consume food; thou viewest a favourite object. Whoever worships this, for the universal soul, partakes of similar enjoyments, contemplates as dear an object, and has religious occupations in his family. But this is only the abdomen of the soul. Thy bladder had burst," said the king, "hadst thou not come to me."

'Lastly, he interrogated UDDA'LACA, the son of ARUN'A. "Whom dost thou worship as the soul, O descendant of GÓTAMA?" "The earth," said he, "O venerable king!" "Constant is that universal self, whom thou dost worship as the soul: and, therefore, thou remainest steady, with offspring and with cattle. Thou dost consume food; thou viewest a favourite object. Whoever worships this, for the universal soul, shares like enjoyments, and views as beloved an object, and

has religious occupations in his family. But this forms only the feet of the soul. Thy feet had been lame," said the king, "hadst thou not come to me."

'He thus addressed them [collectively]: "You consider this universal soul, as it were an individual being; and you partake of distinct enjoyment. But he, who worships, as the universal soul, that which is known by its [manifested] portions, and is inferred [from consciousness], enjoys nourishment in all worlds, in all beings, in all souls: his head is splendid, like that of this universal soul; his eye is similarly varied; his breath is equally diffused; his trunk is no less abundant; his abdomen is alike full; and his feet are the earth; his breast is the altar; his hair is the sacred grass; his heart, the household fire; his mind, the consecrated flame; and his mouth, the oblation.

"The food, which first reaches him, should be solemnly offered: and the first oblation, which he makes, he should present with these words: "Be this oblation to breath efficacious." Thus breath is satisfied; and, in that the eye is satiate; and, in the eye, the sun is content; and, in the sun, the sky is gratified; and, in the sky, heaven and the sun, and whatever is dependant, become replete: and after that, he himself [who eats] is fully gratified with offspring and cattle; with vigour proceeding from food, and splendour arising from holy observances *.

* Several similar paragraphs, respecting four other oblations, so presented to other inspirations of air, are here omitted for the sake of brevity. The taking of a mouthful, by an orthodox *Hindu*

"But whoever makes an oblation to fire, being unacquainted with the universal soul, acts in the same manner, as one who throws live coals into ashes: while he, who presents an oblation, possessing that knowledge, has made an offering in all worlds, in all beings, in all souls. As the tip of dry grass, which is cast into the fire, readily kindles; so are all the faults of that man consumed. He, who knows this, has only presented an oblation to the universal soul, even though he knowingly give the residue to a *Chán-dála*. For, on this point, a text is [preserved]: "As, in this world, hungry infants press round their mother; so do all beings await the holy oblation: they await the holy oblation."

Another *Upanishad* of the *Sámavéda* belongs to the *Sác'há* of the *Talavacáras*. It is called, the "*Cénéshita*," or, "*Céna*" *Upanishad*, from the word, or words, with which it opens: and, as appears from SANCARA's commentary *, this treatise is the ninth chapter *(ad'hyáya)* of the work, from which it is extracted. It is comprised in four sections *(c'han'da)*. The form is that of a dialogue between instructors and their pupils. The subject is, as in other *Upanishads*, a disquisition on abstruse and mystical theology. I shall not make any extract from it, but proceed to describe the fourth and last *Véda*.

---

theologian, is considered as an efficacious oblation: and denominated *Pránágnihótra*.

* I have S'ANCARA's gloss, with the illustrations of his annotator, and the ample commentary of CRISHNA'NANDA: besides a separate gloss, with annotations, on the similar *Upanishad* belonging to the *At'harvavéda*.

On the AT'HARVA-VE'DA.

The *Sanhitá*, or collection of prayers and invocations, belonging to the *A'tharvan'a*, is comprised in twenty books *(cánda)*, subdivided into sections *(anuváca)*, hymns *(súcta)*, and verses *(rich)*. Another mode of division by chapters *(prapátaca)* is also indicated. The number of verses is stated at 6015; the sections exceed a hundred; and the hymns amount to more than seven hundred and sixty. The number of chapters is forty nearly.

A passage from this *Véda* was quoted by Sir W. JONES in his essay on the literature of the *Hindus* *; and a version of it was given, as a specimen of the language and style of the *A't'harvána*. That passage comprises the whole of the forty-third hymn of the nineteenth book †. In the beginning of the same book, I find a hymn (numbered as the sixth) which is almost word for word the same with that, which has been before cited from the thirty-first chapter of the white *Yajush* ‡. Some of the verses are indeed trans-

---

* *Asiatic* Researches, Vol. I. p. 347.

† Sir W. JONES cites it, as from the first book; I suspect, that, in Colonel POLIER'S copy, the nineteenth book might stand first in the volume. It does so, in General MARTIN'S transcript, though the colophon be correct. I have another, and very complete, copy of this *Véda*. General MARTIN'S, which I also possess, is defective: containing only the ten first and the two last books. An ancient fragment, also in my possession, does not extend beyond the sixth.

‡ *Asiatic* Researches, Vol. VII. p. 251.

posed, and here and there a word differs: for example, it opens by describing the primeval man *(purusha)* with a thousand arms, instead of a thousand heads. The purport is, nevertheless, the same; and it is needless, therefore, to insert a version of it in this place.

The next hymn, in the the same book, includes an important passage. It names the twenty-eight asterisms in their order, beginning with *Crìtticá:* and seems to refer the solstice to the end of *As'léshá*, or beginning of *Maghá*. I call it an important passage; first, because it shows, that the introduction of the twenty-eighth asterism is as ancient as the *At'harva-véda;* and, secondly, because it authorises a presumption, that the whole of that *Véda*, like this particular hymn, may have been composed when the solstice was reckoned in the middle, or at the end, of *As'léshá* *, and the origin of the Zodiac was placed at the beginning of *Crĭtticá*. On the obvious conclusion, respecting the age of the *Véda*, I shall enlarge in another place.

An incantation, which appears to be the same that is mentioned by Sir W. JONES †, occurs in the fourth section of the nineteenth book. It is indeed a tremendous incantation; especially the three *Suctas*, or hymns, which are numbered 28, 29, and 30. A single line will be a sufficient specimen of these imprecations, in which, too, there is much sameness.

---

* The middle of *As'léshá*, if the divisions be twenty-seven, and its end, when they are twenty-eight equal portions, give the same place for the colure.

† *Asiatic* Researches, Vol. I. p. 348.

'Destroy, O sacred grass*, my foes; exterminate my enemies; annihilate all those, who hate me, O precious gem!'

The *Atharva-véda*, as is well known, contains many forms of imprecation for the destruction of enemies. But it must not be inferred, that such is the chief subject of that *Véda*; since it also contains a great number of prayers for safety and for the averting of calamities: and, like the other *Védas*, numerous hymns to the gods, with prayers to be used at solemn rites and religious exercises, excepting such as are named *Yajnya*.

The *Gópat'ha Bráhman'a* appears to belong to the second part of this *Véda*. Not having seen a commentary, nor an index, of this work, I can only speak of it from a copy in my possession: this contains five chapters *(prapátaca)*, with the date of the transcript † and name of the transcriber, at the end of the fifth, as is usual in the colophon at the close of a volume.

The first chapter of this *Gópat'ha Bráhman'a* traces the origin of the universe from *Brahme;* and it appears from the fourth section of this chapter, that AT'HARVAN is considered as a *Prajápati* appointed by *Brahme* to create and protect subordinate beings.

In the fifth chapter, several remarkable passages, identifying the primeval person *(purusha)* with the year *(samvatsara)*, convey marked allusions to the calendar. In one place (the fifth section), besides stating the year to contain twelve or thirteen

* *Darbha*, Poa Cynosuroides.
† It is dated at *Mat'hurá*, in the year *(Samvat)* 1732.

lunar months, the subdivision of that period is pursued to 360 days; and, thence, to 10,800 *muhurtas*, or hours.

I proceed to notice the most remarkable part of the *At'harva-véda*, consisting of the theological treatises, entitled *Upanishads*, which are appendant on it. They are computed at fifty-two: but this number is completed by reckoning, as distinct *Upanishads*, different parts of a single tract. Four such treatises, comprising eight *Upanishads*, together with six of those before described as appertaining to other *Védas*, are perpetually cited in dissertations on the *Védánta**. Others are either more sparingly, or not at all, quoted.

It may be here proper to explain what is meant by *Upanishad*. In dictionaries, this term is made equivalent to *Rehesya*, which signifies mystery. This last term is, in fact, frequently employed by MENU, and other ancient authors, where the commentators understand *Upanishads* to be meant. But neither the etymology, nor the acceptation, of the word, which is now to be explained, has any direct connexion with the idea of secrecy, concealment, or mystery. Its proper meaning, according to SANCARA, SA'YAN'A, and all the commentators, is divine science, or the knowledge of GOD: and, according to the same authorities, it is equally applicable to theology itself, and to a book in which this science is taught. Its deriva-

* The *Céna* and *Ch'hándógya* from the *Sámavéda;* the *Vrihad áran'yaca* and *Is'ávas'ya* from the white *Yajush,* and the *Taittiríyaca* from the black *Yajush;* the *Aitaréya* from the *Rig-véda;* and the *Cat'ha, Pras'na, Mun'daca,* and *Mán'dúcya* from the *At'harvan'a.* To these should be added, the *Nrisiṅha tápaníya.*

tion is from the verb *sad (shad-lrĭ)*, to destroy, to move, or to weary, preceded by the prepositions *upa* near, and *ni* continually, or *nis* certainly. The sense, properly deducible from this etymology, according to the different explanations given by commentators, invariably points to the knowledge of the divine perfections, and to the consequent attainment of beatitude through exemption from passions *.

The whole of the *Indian* theology is professedly founded on the *Upanishads* †. Those, which have been before described, have been shown to be extracts from the *Véda*. The rest are also considered as appertaining to the *Indian* scripture: it does not, however, clearly appear, whether they are detached essays, or have been extracted from a *Bráhman'a* of the *At'harva-véda*. I have not found any of them in the *Sanhitá* of the *At'harvan'a*, nor in the *Gópat'ha Bráhman'a*.

In the best copies of the fifty-two *Upanishads* ‡, the first fifteen are stated to have been taken from the *Saunacíyas*, whose *S'ác'há* seems to be the principal one of the *At'harva-véda*. The remaining

---

* SANCARA, and ANANDA'S'RAMA on the *Vrihad áran'yaca;* as also the commentaries on other *Upanishads:* especially SANCARA on the *Cat'haca*. Other authors concur in assigning the same acceptation and etymology, to the word: they vary, only, in the mode of reconciling the derivation with the sense.

† It is expressly so affirmed in the *Védánta sára*. *v.* 3.

‡ I possess an excellent copy, which corresponds with one transcribed for Mr. BLAQUIERE, from a similar collection of *Upanishads* belonging to the late Sir W. JONES. In two other copies, which I also obtained at *Benares*, the arrangement differs, and several *Upanishads* are inserted, the genuineness of which is questionable; while others are admitted, which belong exclusively to the *Yajurvéda*.

thirty-seven appertain to various *S'ác'hás*, mostly to that of the *Paippaládis:* but some of them, as will be shown, are borrowed from other *Védas.*

The *Mun'daca*, divided into six sections unequally distributed in two parts, is the first *Upanishad* of the *A't'harvan'a;* and is also one of the most important, for the doctrines which it contains. It has been fully illustrated by SANCARA, whose gloss is assisted by the annotations of ANANDAJNYA'NA. The opening of this *Upanishad*, comprising the whole of the first section, is here subjoined.

'BRAHMA' was first of the gods, framer of the universe, guardian of the world. He taught the knowledge of GOD, which is the foundation of all science, to his eldest son AT'HARVA. That holy science, which BRAHMA' revealed to AT'HARVAN *, was communicated by him to ANGIR, who transmitted it to SATYAVAHA, the descendant of BHARADWA'JA: and this son of BHARADWA'JA imparted the traditional science to ANGIRAS.

'S'AUNACA, or the son of SUNACA, a mighty householder, addressing ANGIRAS with due respect, asked "What is it, O venerable sage, through which, when known, this universe is understood?"

'To him the holy personage thus replied: "Two sorts of science must be distinguished; as they, who know GOD, declare: the supreme science,

* SANCARA remarks, that AT'HARVA, or AT'HARVAN, may have been the first creature, in one of the many modes of creation, which have been practised by BRAHMA'.

and another. This other is the *Rĭgvéda*, the *Yajurvéda*, the *Samavéda*, the *Atharva-véda**; the rules of accentuation, the rites of religion, grammar, the glossary and explanation of obscure terms, prosody, and astronomy: also the *Itihása* and *Purán'a;* and logic, with the rules of interpretation, and the system of moral duties.

"But the supreme science is that, by which this unperishable [nature] is apprehended; invisible [or imperceptible, as is that nature]: not to be seized; nor to be deduced; devoid of colour; destitute of eyes and ears; without hands or feet, yet ever variously pervading all: minute, unalterable; and contemplated by the wise for the source of beings.

"As the spider spins and gathers back [its thread]; as plants sprout on the earth; as hairs grow on a living person: so is this universe, here, produced from the unperishable nature. By contemplation, the vast one germinates; from him, food [or body] is produced; and thence, successively, breath, mind, real [elements], worlds, and immortality arising from [good] deeds. The omniscient is profound contemplation, consisting in the knowledge of him, who knows all: and, from that, the [manifested] vast one, as well as names, forms, and food, proceed: and this is truth."

The *Pras'na*, which is the second *Upanishad*, and equally important with the first, consists, like it, of six sections; and has been similarly interpreted by S'ANCARA and BA'LACRĬSHN'A †. In this

---

* Meaning the prayers contained in the four *Védas*, disjoined from theology.

† I have several copies of the text, besides commentaries on both *Upanishads*.

dialogue, SUCE'S'A, the son of BHARADWA'JA, SATYACA'MA, descended from S'IVI, SAURYA'YANI, a remote descendant of the Sun, but belonging to the family of GARGA, CAUS'ALYA, surnamed A'S'WALA'YANA, or son of AS'WALA, VAIDARBHI of the race of BHRĬGU, together with CABAND'HI', surnamed CA'TYA'YANA, or descendant of CATYA, are introduced as seeking the knowledge of theology, and applying to PIPPALA'DA for instruction. They successively interrogate him concerning the origin of creatures, the nature of the gods, the union of life with body, and the connexion of thoughts with the soul.

The nine succeeding *Upanishads* (from the 3d to the 11th) are of inferior importance, and have been left unexplained by the writers on the *Védánta*, because they do not directly relate to the *Sáríraca*, or theological doctrine respecting the soul *. They are enumerated in the margin †.

The *Man'ducya* follows, and consists of four parts, each constituting a distinct *Upanishad*. This abstruse treatise, comprising the most material doctrines of the *Védánta*, has been elucidated by the labours of GAUD'APA'DA, and S'ANCARA. GAUD'APA'DA'S commentary is assisted by the notes of ANANDAGIRI.

Among the miscellaneous *Upanishads*, the first thirteen (from the 16th to the 28th) have been left

* This reason is assigned by the annotator on S'ANCARA'S gloss, at the beginning of his notes on the *Mun'daca Upanishad*.

† 3d *Brahme-vidyá*. 4th *Cshuricá*. 5th *Chúlica*. 6th and 7th *At'harva-s'iras*. 8th *Garbha*. 9th *Mahá*. 10th *Brahma*. 11th *Prán'ágnihótra*.

uncommented by the principal expounders of the *Védánta*, for a reason before-mentioned. The names of these *Upanishads* will be found in the subjoined note*.

The following six (from the 29th to the 34th,) constitute the *Nrĭsinha Tápaníya;* five of them compose the *Púrva Tápaníya*, or first part of the *Upanishad* so called; and the last, and most important, is entitled *Uttara Tápaníya.* It has been expounded by GAUD'APA'DA, as the first part (if not the whole *Upanishad)* has been by SANCARA †. The object of this treatise appears to be the identifying of NRĬSINHA with all the gods: but, so far as I comprehend its meaning (for I have not sufficiently examined it to pronounce confidently on this point,) the fabulous incarnation of VISHNU, in the shape of a vast lion, does not seem to be at all intended; and the name of NRĬSINHA is applied to the divinity, with a superlative import, but with no apparent allusion to that fable.

The two next *Upanishads* constitute the first and second parts of the *Cát'haca*, or *Vallí*, or *Cat'ha-vallí* (for the name varies in different copies). It belongs properly to the *Yajurvéda*, as before mentioned; but it is usually cited from the *A't'har-*

---

* 16th *Níla-rudra.* 17th *Náda-vindu.* 18th *Brahme-vindu.* 19th *Amrita-vindu.* 20th *D'hyána-vindu.* 21st *Téjó-vindu.* 22d *Yóga-sícshá.* 23d *Yóga-tatwa.* 24th *Sannyása.* 25th *Arun'iya* or *Arun'i-yóga.* 26th *Cant'hasrutí.* 27th *Pin'da.* 28th *A'tmá.*

† I have several copies of the text, and of GAUD'APA'DA'S commentary; with a single transcript of SANCARA'S gloss on the five first of the treatises entitled *Tápaníya.*

van'a; and has been commented, as appertaining to this *Véda*, by S'ANCARA, and by BA'LACRÏSHN'A *.

It comprises six sections, severally entitled *Vallí*; but constituting two chapters (*ad'hyáya*), denominated *Púrva-vallí* and *Uttara-vallí*. The dialogue is supported by *Mrïtyu*, or death, and the prince NACHÏCE'TAS, whom his father, VA'-JAS'RAVASA, consigned to YAMA, being provoked by the boy's importunately asking him, (through zeal, however, for the success of a sacrifice performed to ensure universal conquest,) "to whom wilt thou give me?" YAMA receives NACHICE'TAS with honour, and instructs him in theology, by which beatitude and exemption from worldly sufferings may be attained, through a knowledge of the true nature of the soul, and its identity with the supreme being. The doctrine is similar to that of other principal *Upanishads*.

The *Cénéshita*, or *Céna Upanishad*, is the thirty-seventh of the *At'harvan'a*, and agrees, almost word for word, with a treatise bearing the same title, and belonging to a *S'ác'há* of the *Sámavéda*. S'ANCARA has, however, written separate commentaries on both, for the sake of exhibiting their different interpretations †. Both commentaries have, as usual, been annotated.

* The commentary of S'ANCARA is, as usual, concise and perspicuous: and that of BA'LACRISHN'A, copious but clear. Besides their commentaries, and several copies of the text, together with a paraphrase by VIDYA'RANYA, I have found this *Upanishad* forming a chapter in a *Bráhmana*, which is marked as belonging to the *Sámavéda*, and which I conjecture to be the *Pancha vinsa Brahmana* of that *Véda*.

† Here, as in other instances, I speak from copies in my possession.

1

A short *Upanishad*, entitled *Náráyana*, is followed by two others (39th and 40th), which form the first and second parts of the *Vrïhan Náráyan'a*. This corresponds, as before mentioned, with an *Upanishad*, bearing the same title, and terminating the *A'ran'ya* of the *Taittiríya Yajurvéda*.

On the three subsequent *Upánishads* I shall offer no remarks; they have not been commented among such as relate to the *Védánta;* and I have not ascertained whence they are extracted *.

Under the name of *Anandavallí* and *Bhrïguvallí*, two *Upanishads* follow (44th and 45th), which have been already noticed as extracts from the *A'ran'ya* of the black *Yajush*, distinguished by the titles of *Taittiríya* and *Váruni*.

The remaining seven *Upanishads* † are unexplained by commentators on the *Védánta*. They are, indeed, sufficiently easy, not to require a laboured interpretation: but there is room to regret the want of an ancient commentary, which might assist in determining whether these *Upanishads* be genuine. The reason of this remark will be subsequently explained.

Entertaining no doubts concerning the genuineness of the other works, which have been here described, I think it, nevertheless, proper to state some of the reasons on which my belief of their

* Their titles are, 41st *Sarv'ópanishatsára*. 42d *Hansa*. And 43d *Parama hansa*.

† 46th *Garuda*. 47th *Călágni-rudra*. 48th and 49th *Ráma tápaníya*, first and second parts. 50th *Caivalya*. 51st *Jábala*. 52d *Asrama*.

authenticity is founded. It appears necessary to do so, since a late author has abruptly pronounced the *Védas* to be forgeries *.

It has been already mentioned, that the practice of reading the principal *Védas* in superstitious modes, tends to preserve the genuine text. Copies, prepared for such modes of recital, are spread in various parts of *India*, especially *Benares*, *Jeyenagar*, and the banks of the *Gódávérí*. Interpolations and forgeries have become impracticable since this usage has been introduced: and the *Rĭgvéda*, and both the *Yajushes*, belonging to the several *S'ác'hás*, in which that custom has been adopted, have been, therefore, long safe from alteration.

The explanatory table of contents, belonging to the several *Védas*, also tends to ensure the purity of the text; since the subject and length of each passage are therein specified. The index, again, is itself secured from alteration by more than one exposition of its meaning, in the form of a perpetual commentary.

It is a received and well grounded opinion of the learned in *India*, that no book is altogether safe from changes and interpolations until it have been commented: but when once a gloss has been published, no fabrication could afterwards succeed; because the perpetual commentary notices every passage, and, in general, explains every word.

---

* Mr. PINKERTON, in his Modern Geography, Vol. II.

Commentaries on the *Védas* themselves exist, which testify the authenticity of the text. Some are stated to have been composed in early times: I shall not, however, rely on any but those to which I can with certainty refer. I have fragments of UVAT'A's gloss; the greatest part of SAYAN'A's on several *Védas;* and a complete one by MAHID'HARA on a single *Véda.* I also possess nearly the whole of S'ANCARA's commentary on the *Upanishads;* and a part of GAUD'APA'DA's; with others, by different authors of less note.

The genuineness of the commentaries, again, is secured by a crowd of annotators, whose works expound every passage in the original gloss; and whose annotations are again interpreted by others. This observation is particularly applicable to the most important parts of the *Védas,* which, as is natural, are the most studiously and elaborately explained.

The *Niructa,* with its copious commentaries on the obsolete words and passages of scripture, further authenticates the accuracy of the text, as there explained. The references, and quotations, in those works, agree with the text of the *Védas,* as we now find it.

The grammar of the *Sanscrït* language contains rules applicable to the anomalies of the ancient dialect. The many and voluminous commentaries on that, and on other parts of the grammar, abound in examples cited from the *Védas:* and here, also, the present text is consonant to those ancient quotations.

Philosophical works, especially the numerous commentaries on the aphorisms of the *Mímánsá*

and *Védánta*, illustrate and support every position advanced in them, by ample quotations from the *Védas*. The object of the *Mímánsá* is to establish the cogency of precepts contained in scripture, and to furnish maxims for its interpretation; and, for the same purpose, rules of reasoning, from which a system of logic is deducible. The object of the *Védánta* is to illustrate the system of mystical theology taught by the supposed revelation, and to show its application to the enthusiastic pursuit of unimpassioned perfection and mystical intercourse with the divinity. Both are closely connected with the *Védas*: and here, likewise, the authenticity of the text is supported by ancient references and citations.

Numerous collections of aphorisms, by ancient authors*, on religious ceremonies, contain, in every line, references to passages of the *Védas*. Commentaries on these aphorisms cite the passages at greater length. Separate treatises also interpret the prayers used at divers ceremonies. Rituals, some ancient, others modern, contain a full detail of the ceremonial, with all the prayers which are to be recited at the various religious rites for which they are formed. Such rituals are extant, not only for ceremonies which are constantly observed, but for others which are rarely practised; and even for such as have been long since disused.

---

* The *Sútras* of A'S'WALA'YANA, SA'NC'HYA'YANA, BAUDD'HA'YANA, CA'TYA'YANA, LAT'A'YANA, GO'BHILA, A'PASTAMBA, &c.

These, appertaining to various *Sác'hás* of the *Védas*, constitute the *calpa*, or system of religious observances. I have here enumerated a few only. The list might be much enlarged, from my own collection; and still more so, from quotations by various compilers: for the original works, and their commentaries, as well as compilations from them, are very numerous.

In all, the passages taken from the *Vêdas* agree with the text of the general compilation.

The *Indian* legislators, with their commentators, and the copious digests and compilations from their works, frequently refer to the *Vêdas;* especially on those points of the law which concern religion. Here also the references are consistent with the present text of the *Indian* scripture.

Writers on ethics sometimes draw from the *Vêdas* illustrations of moral maxims; and quote from their holy writ, passages at full length, in support of ethical precepts *. These quotations are found to agree with the received text of the sacred books.

Citations from the *Indian* scripture occur in every branch of literature, studied by orthodox *Hindus*. Astronomy, so far as it relates to the calendar, has frequent occasion for reference to the *Vêdas*. Medical writers sometimes cite them; and even annotators on profane poets occasionally refer to this authority, in explaining passages which contain allusions to the sacred text.

Even the writings of the heritical sects exhibit quotations from the *Vêdas*. I have met with such in the books of the *Jainas*, unattended by any indication of their doubting the genuineness of the original, though they do not receive its doctrines, nor acknowledge its cogency †.

---

* A work entitled *Nîti manjari* is an instance of this mode of treating moral subjects.

† The *S'atapat'ha Bráhman'a*, especially the 14th book, or *Vrihadáran'yaca*, is repeatedly cited, with exact references to the numbers of the chapters and sections, in a fragment of a treatise by a *Jaina* author, the communication of which I owe to Mr.

In all these branches of *Indian* literature, while perusing or consulting the works of various authors, I have found perpetual references to the *Védas*, and have frequently verified the quotations. On this ground I defend the authentic text of the *Indian* scripture, as it is now extant; and although the passages which I have so verified are few, compared with the great volume of the *Védas*, yet I have sufficient grounds to argue, that no skill, in the nefarious arts of forgery and falsification, could be equal to the arduous task of fabricating large works, to agree with the very numerous citations, pervading thousands of volumes, composed on diverse subjects, in every branch of literature, and dispersed through the various nations of *Hindus* inhabiting *Hindustan*, and the *Dekhin*.

If any part of what is now received as the *Véda*, cannot stand the test of such a comparison, it may be rejected, as at least doubtful, if not certainly spurious. Even such parts as cannot be fully confirmed by a strict scrutiny, must be either received with caution, or be set aside as questionable. I shall point out parts of the fourth *Véda*, which I consider to be in this predicament. But, with the exceptions now indicated, the various portions of the *Védas*, which have been examined, are as yet free from such suspicion; and, until they are impeached by more than vague assertion, have every title to be admitted as genuine copies of books, which (however little deserving of it) have been long held in reverence by the *Hindus*.

I am apprised that this opinion will find oppo-

SPEKE, among other fragments collected by the late Capt. HOARE, and purchased at the sale of that gentleman's library.

nents, who are inclined to dispute the whole of *Indian* literature, and to consider it all as consisting of forgeries, fabricated within a few years, or, at best, in the last few ages. This appears to be grounded on assertions and conjectures, which were inconsiderately hazarded, and which have been eagerly received, and extravagantly strained.

In the first place, it should be observed, that a work must not be hastily condemned as a forgery, because, on examination, it appears not to have been really written by the person whose name is usually coupled with quotations from it. For if the very work itself show that it does not purport to be written by that person, the safe conclusion is, that it was never meant to be ascribed to him. Thus the two principal codes of *Hindu* law are usually cited as MENU'S and YA'JNYAWALCYA'S: but in the codes themselves, those are dialogists, not authors: and the best commentators expressly declare, that these institutes were written by other persons than MENU and YA'JNYAWALCYA*. The *Súrya Sidd'hánta* is not pretended to have been written by MEYA: but he is introduced as receiving instruction from a partial incarnation of the Sun; and their conversation constitutes a dialogue, which is recited by another person in a different company. The text of the *Sánc'hya* philosophy, from which the sect of BUDD'HA seems to have borrowed its doctrines, is not the work of CAPILA himself, though vulgarly ascribed to him; but it purports to be composed by I'S'WARA CRISHN'A; and he is stated to have received the doctrine mediately from CAPILA, through successive teachers,

* VIJNYA'NAYO'GI, also named VIJNYA'NE'S'WARA, who commented the institutes which bear the name of YA'JNYAWALCYA, states the text to be an abridgement by a different author.

after its publication by PANCHAS'IC'HA, who had been himself instructed by ASURI, the pupil of CAPILA.

To adduce more instances would be tedious: they abound in every branch of science. Among works, the authors of which are unknown, and which, therefore, as usual, are vulgarly ascribed to some celebrated name, many contain undisguised evidence of a more modern date. Such are those parts of *Purános*, in which the prophetic style is assumed, because they relate to events posterior to the age of the persons who are speakers in the dialogue. Thus BUDD'HA is mentioned under various names in the *Matsya*, *Vishńu*, *Bhágavata*, *Garuda*, *Nrĭsinha*, and other *puránas*. I must not omit to notice, that SANCAR'A'CHA'RYA, the great commentator on the abstrusest parts of the *Védas*, is celebrated, in the *Vrĭhad d'harma puráńa**, as an incarnation of VISHNU; and GAUD'APA'DA is described, in the *Sancara vijeya*, as the pupil of SUCA the son of VYA'SA †.

I do not mean to say, that forgeries are not sometimes committed; or that books are not counterfeited, in whole or in part. Sir W. JONES, Mr. BLAQUIERE, and myself, have detected interpolations. Many greater forgeries have been at-

* In the 78th chapter of the 2d part. This is the *Puráńa* mentioned by me with doubt in a former essay. I have since procured a copy of it.

† If this were not a fable, the real age of VYA'SA might be hence ascertained; and, consequently, the period when the *Védas* were arranged in their present form. GO'VINDANA'THA, the instructor of S'ANCARA, is stated to have been the pupil of GAUD'APA'DA; and, according to the traditions generally received in the peninsula of *India*, S'ANCARA lived little more than eight hundred years ago.

tempted: some have for a time succeeded, and been ultimately discovered: in regard to others, detection has immediately overtaken the fraudulent attempt. A conspicuous instance of systematic fabrication, by which Captain WILFORD was for a time deceived, has been brought to light, as has been fully stated by that gentleman. But though some attempts have been abortive, others may doubtless have succeeded. I am myself inclined to adopt an opinion supported by many learned *Hindus*, who consider the celebrated *Srì Bhágavata* as the work of a grammarian, supposed to have lived about six hundred years ago.

In this, as in several other instances, some of which I shall have likewise occasion to notice, the learned among the *Hindus* have resisted the impositions that have been attempted. Many others might be stated, where no imposition has been either practised or intended. In *Europe*, as well as in the East, works are often published anonymously, with fictitious introductions: and diverse compositions, the real authors of which are not known, have, on insufficient grounds, been dignified with celebrated names. To such instances, which are frequent every where, the imputation of forgery does not attach.

In *Europe* too, literary forgeries have been committed, both in ancient and modern times. The poems ascribed to ORPHEUS, are generally admitted not to have been composed by that poet, if, indeed, he ever existed. NANI, or ANNIUS, of *Viterbo*, is now universally considered as an impostor, notwithstanding the defence of his publication, and of himself, by some among the learned of his age. In our own country, and in recent times, literary frauds have been not unfrequent.

But a native of *India*, who should retort the charge, and argue from a few instances, that the whole literature of *Europe*, which is held ancient, consists of modern forgeries, would be justly censured for his presumption.

We must not then indiscriminately condemn the whole literature of *India*. Even Father HARDOUIN, when he advanced a similar paradox respecting the works of ancient writers, excepted some compositions of CICERO, VIRGIL, HORACE, and PLINY.

It is necessary in this country, as every where else, to be guarded against literary impositions. But doubt and suspicion should not be carried to an extreme length. Some fabricated works, some interpolated passages, will be detected by the sagacity of critics in the progress of researches into the learning of the east: but the greatest part of the books, received by the learned among the *Hindus*, will assuredly be found genuine. I do not doubt that the *Védas*, of which an account has been here given, will appear to be of this description.

In pronouncing them to be genuine, I mean to say, that they are the same compositions, which, under the same title of *Véda*, have been revered by *Hindus* for hundreds, if not thousands, of years. I think it probable, that they were compiled by DWA'PA'YANA, the person who is said to have collected them, and who is thence surnamed *Vyása*, or the compiler. I can perceive no difficulty in admitting, that those passages, which are now ascribed to human authors, either as the *Rĭshis*, or as the reciters of the text, were attributed to the same persons so long ago as when

the compilation was made; and probably, in most instances, those passages were really composed by the alleged authors. Concerning such texts as are assigned to divine persons, according to *Hindu* mythology, it may be fairly concluded, that the true writers of them were not known when the compilation was made; and, for this reason, they were assigned to fabulous personages.

The different portions which constitute the *Védas*, must have been written at various times. The exact period when they were compiled, or that in which the greatest part was composed, cannot be determined, with accuracy and confidence, from any facts yet ascertained. But the country may; since many rivers of *India* are mentioned in more than one text: and, in regard to the period, I incline to think, that the ceremonies called *Yajnya*, and the prayers to be recited at those ceremonies, are as old as the calendar, which purports to have been framed for such religious rites.

To each *Véda* a treatise, under the title of *Jyótish*, is annexed, which explains the adjustment of the calendar, for the purpose of fixing the proper periods for the performance of religious duties. It is adapted to the comparison of solar and lunar time with the vulgar or civil year; and was evidently formed in the infancy of astronomical knowledge. From the rules delivered in the treatises which I have examined*, it appears,

---

* I have several copies of one such treatise, besides a commentary on the *Jyótish* of the *Rigveda*, by an unknown author; which is accordingly assigned to a fabulous personage, SE'SHA NA'GA.

that the cycle *(Yuga)* there employed, is a period of five years only. The month is lunar; but at the end, and in the middle, of the quinquennial period, an intercalation is admitted, by doubling one month. Accordingly, the cycle comprises three common lunar years, and two, which contain thirteen lunations each. The year is divided into six seasons; and each month into half months. A complete lunation is measured by thirty lunar days; some one of which must of course, in alternate months, be sunk, to make the dates agree with the nycthemera. For this purpose, the sixty-second day appears to be deducted*: and thus the cycle of five years consists of 1860 lunar days, or 1830 nycthemera; subject to a further correction, for the excess of nearly four days above the true sidereal year: but the exact quantity of this correction, and the method of making it, according to this calendar, have not yet been sufficiently investigated to be here stated. The zodiac is divided into twenty-seven asterisms, or signs, the first of which, both in the *Jyótish* and in the *Védas*, is *Crĭtticá*, or the Pleiads. The place of the colures, according to these astronomical treatises, will be forthwith mentioned; but none of them hint at a motion of the equinoxes. The measure of a day by thirty hours, and that of an hour by sixty minutes, are explained; and the method of constructing a clepsydra is taught.

This ancient *Hindu* calendar, corresponding, in its divisions of time, and in the assigned origin of

---

* The *Athenian* year was regulated in a similar manner; but, according to GEMINUS, it was the sixty-third day, which was deducted. Perhaps this *Hindu* calendar may assist in explaining the *Grecian* system of lunar months.

the ecliptic, with several passages of the *Védas*, is evidently the foundation of that which, after successive corrections, is now received by the *Hindus* throughout *India*. The progress of those corrections may be traced, from the cycle of five *, to one of sixty lunar years (which is noticed in many popular treatises on the calendar, and in the commentary of the *Jyótish)*; and thence, to one of sixty years of JUPITER; and, finally, to the greater astronomical periods of twelve thousand years of the gods, and a hundred years of BRAHMA'. But the history of *Indian* astronomy is not the subject of this essay. I shall only cite, from the treatises here referred to, a passage in which the then place of the colures is stated.

'*Swar ácramété sómá'rcau yadi sácam savásavau; syát tadádiyugam, mághas, tapas, s'ucló, 'yanan hy udac.*

'*Prapadyété s'ravisht'hádau súryachándramasáv udac; sárp'árd'hé dácshin'árcas tu: mág'ha-s'rávan'ayòh sadá.*

'*Gharma-vrĭdd'hir, apám prast'hah, cshapá-*

---

* The treatises in question contain allusions to the ages of the world: but without explaining, whether any, and what, specific period of time was assigned to each age. This cycle of five years is mentioned by the name of *Yuga*, in PARA'SARA's institutes of law edited by SUVRATA, and entitled *Vrihat Parásara*. It is there (Ch. 12. v. 83.) stated, as the basis of calculation for larger cycles: and that of 3600 years, deduced from one of sixty (containing twelve simple *yugas)*, is denominated the *Yuga* of VA'CPATI; whence the *yuga* of PRAJA'NA'T'HA, containing 216,000 years, is derived; and twice that constitutes the *Cali-yuga*. The still greater periods are afterwards described under the usual names.

hrásu, udag gatau: dacshin'é tau viparyastau, shań muhúrty ayanéna tu.'

The following is a literal translation of this remarkable passage, which occurs in both the treatises examined by me.

'When the sun and moon ascend the sky together, being in the constellation over which the *Vasus* preside; then does the cycle begin, and the [season] *Mág'ha*, and the [month] *Tapas*, and the bright [fortnight], and the northern path.

'The sun and moon turn towards the north at the beginning of *Sravisht'há;* but the sun turns towards the south in the middle of the constellation over which the serpents preside; and this [his turn towards the south, and towards the north,] always [happens] in [the months of] *Mágha* and *Srávána.*

'In the northern progress, an increase of day, and decrease of night, take place, amounting to a *prast'ha* (or 32 *palas*) of water; in the southern, both are reversed (i. e. the days decrease, and the nights increase), and [the difference amounts] by the journey, to six *muhúrtas* *.'

Sravisht'há is given, in all the dictionaries of the *Sanscrit* language, as another name of *D'hanisht'há;* and is used for it, in more than one passage of the *Védas.* This is the constellation which is sacred to

---

* I cannot, as yet, reconcile the time here stated. Its explanation appears to depend on the construction of the clepsydra, which I do not well understand; as the rule for its construction is obscure, and involves some difficulties, which remain yet unsolved.

the *Vasus*; as *As'lèshá* is, to the serpents. The deities, presiding over the twenty-seven constellations, are enumerated in three other verses of the *Jyótish* belonging to the *Yajush*, and in several places of the *Védas*. The *Jyótish* of the *Rích* differs in transposing two of them; but the commentator corrects this as a faulty reading.

In several passages of the *Jyótish*, these names of deities are used for the constellations over which they preside; especially one, which states the situation of the moon, when the sun reaches the tropic, in years other than the first of the cycle. Every where these terms are explained, as indicating the constellations, which that enumeration allots to them*. Texts, contained in the *Védas* themselves, confirm the correspondence; and the connexion of *As'winì* and the *Aswins* is indeed decisive.

Hence it is clear, that *D'hanisht'há* and *A's'léshá* are the constellations meant; and that when this *Hindu* calendar was regulated, the solstitial points were reckoned to be at the beginning of the one, and in the middle of the other: and such was the situation of those cardinal points, in the fourteenth century before the *Christian* era. I formerly † had occasion to show, from another passage of the *Védas*, that the correspondence of seasons with months, as there stated, and as also suggested in the passage now quoted from the *Jyótish*, agrees with such a situation of the cardinal points.

I now proceed to fulfil the promise of indicating

* I think it needless to quote the original of this enumeration.
† *Asiatic* Researches, Vol. VII. p. 283.

such parts of the fourth *Véda*, as appear liable to suspicion. These are the remaining detached *Upanishads*, which are not received into the best collections of fifty-two theological tracts, belonging to the *At'harva-véda;* and even some of those which are there inserted, but which, so far as my inquiries have yet reached, do not appear to have been commented by ancient authors, nor to have been quoted in the whole commentaries on the *Vedánta.* Two of these *Upanishads* are particularly suspicious: one entitled *Ráma tápaníya*, consisting of two parts *(Purva* and *Uttara)*; another called *Gópála tápanìya*, also comprising two parts, of which one is named the *Crïshn'a Upanishad.* The introduction to the first of these works contains a summary, which agrees in substance with the mythological history of the husband of Síta, and conqueror of *Lancá.* The other exalts the hero of *Mat'hurá.*

Although the *Ráma tápaníya* be inserted in all the collections of *Upanishads*, which I have seen; and the *Gópála tápaníya* appear in some; yet I am inclined to doubt their genuineness, and to suspect that they have been written in times, modern, when compared with the remainder of the *Védas.* This suspicion is chiefly grounded on the opinion, that the sects, which now worship Ra'ma and Crïshn'a as incarnations of Vishn'u, are comparatively new. I have not found, in any other part of the *Védas*, the least trace of such a worship. The real doctrine of the whole *Indian* scripture is the unity of the deity, in whom the universe is comprehended: and the seeming polytheism, which it exhibits, offers the elements, and the stars and planets, as gods. The three principal manifestations of the divinity, with other personified attributes and energies, and most of the

other gods of *Hindu* mythology, are indeed mentioned, or at least indicated, in the *Védas*. But the worship of deified heroes is no part of that system; nor are the incarnations of deities suggested in any other portion of the text, which I have yet seen; though such are sometimes hinted at by the commentators.

According to the notions, which I entertain of the real history of the *Hindu* religion, the worship of RA'MA, and of CRĬSHN'A, by the *Vaishn'avas*, and that of MAHA'DE'VA and BHAVA'NÍ by the *Saivas* and *Sáctas*, have been generally introduced, since the persecution of the *Baudd'has* and *Jainas*. The institutions of the *Védas* are anterior to BUDD'HA, whose theology seems to have been borrowed from the system of CAPILA, and whose most conspicuous practical doctrine is stated to have been the unlawfulness of killing animals, which in his opinion were too frequently slain for the purpose of eating their flesh, under the pretence of performing a sacrifice or *Yajnya*. The overthrow of the sect of BUDD'HA, in *India*, has not effected the full revival of the religious system inculcated in the *Védas*. Most of what is there taught, is now obsolete: and, in its stead, new orders of religious devotees have been instituted; and new forms of religious ceremonies have been established. Rituals founded on the *Purán'as*, and observances borrowed from a worse source, the *Tantras*, have, in great measure, antiquated the institutions of the *Védas*. In particular, the sacrificing of animals before the idols of CA'LÍ*,

* In *Bengal*, and the contiguous provinces, thousands of kids and buffalo calves are sacrificed before the idol, at every celebrated temple; and opulent persons make a similar destruction

has superceded the less sanguinary practice of the *Yajnya;* and the adoration of RA'MA and of CRĬSHN'A has succeeded to that of the elements and planets. If this opinion be well founded, it follows, that the *Upanishads* in question have probably been composed in later times, since the introduction of those sects, which hold RA'MA and GÓPA'LA in peculiar veneration.

On the same ground, every *Upanishad*, which strongly favours the doctrines of these sects, may be rejected, as liable to much suspicion. Such is the *A'tmábód'ha Upanishad**, in which CRĬSHNA is noticed by the title of MAD'HU-SU'DANA, son of DEVACÍ: and such, also, is the *Sundarítápaní*†, which inculcates the worship of DE'VI.

The remaining *Upanishads* do not, so far as I have examined them, exhibit any internal evidence of a modern date. I state them as liable to

---

of animals at their private chapels. The sect which has adopted this system is prevalent in *Bengal*, and in many other provinces of *India:* and the Sanguinary Chapter, translated from the *Cálicá Purána* by a member of this society, (*Asiatic* Researches, Vol. V. p. 371,) is one among the authorities on which it relies. But the practice is not approved by other sects of *Hindus*.

* I have seen but one copy of it, in an imperfect collection of the *Upanishads*. It is not inserted in other compilations, which nevertheless purport to be complete.

† According to the only copy that I have seen, it comprises five *Upanishads*, and belongs to the *At'harvana;* but the style resembles that of the *Tantras* more than the *Védas*. It is followed by a tract, marked as belonging to the same *Véda*, and entitled *Tripura Upanishad*, or *Traipuríya;* but this differs from another bearing the similar title of *Tripurí Upanishad*, and found in a different collection of theological treatises. I equally discredit both of them, although they are cited by writers on the *Mantra sástra* (or use of incantations); and although a commentary has been written on the *Tripura*, by BHAT'T'A BHA'SCARA.

doubt, merely because I am not acquainted with any external evidence of their genuineness *. But it is probable, that further researches may ascertain the accuracy of most of them, as extracts from the *Védas;* and their authenticity, as works quoted by known authors. In point of doctrine, they appear to conform with the genuine *Upanishads.*

The preceding description may serve to convey some notion of the *Védas.* They are too voluminous for a complete translation of the whole: and what they contain, would hardly reward the labour of the reader; much less, that of the translator. The ancient dialect, in which they are composed, and especially that of the three first *Védas,* is extremely difficult and obscure: and, though curious, as the parent of a more polished and refined language (the classical *Sanscrit*), its difficulties must long continue to prevent such an examination of the whole *Védas,* as would be requisite for extracting all that is remarkable and important in those voluminous works. But they well deserve to be occasionally consulted by the oriental scholar.

---

* The same observation is applicable to several *Upanishads,* which are not inserted in the best collections, but which occur in others. For instance, the *Scanda, Caula, Gópíchandana, Dars'ana,* and *Vajrasúchi.* I shall not stop to indicate a few questionable passages in some of these dubious tracts.

IX.

A Botanical *and* Economical Account *of* Bassia Butyracea, *or* East India Butter Tree.

BY W. ROXBURGH, M. D.

BASSIA BUTYRACEA.

Polyandria Monogynia.

GENERIC CHARACTER.

CALYX beneath, four or five leaved. Corol, one petaled: Border about eight cleft. Berry superior, with from one to five Seeds.

Bassia Butyracea. Roxburgh.

Calyx five-leaved; Stamens thirty or forty, crowning the subcylindric tube of the Corol.

Fulwah, *Phulwarah*, or *Phulwara*, of the inhabitants of the *Almorah* hills, where the tree is indigenous. Flowering time, in its native soil, the month of *January;* Seeds ripe in *August*.

Trunk of the larger trees, straight, and about five or six feet in circumference. Bark of the young branches smooth, brown, and marked with small ash-coloured specks.

Leaves alternate, about the ends of the branchlets, petioled, obovate-cuneate, obtuse-pointed, entire; smooth above, villous underneath; veins simple, and parallel; length, six to twelve inches; breadth, three to six.

Petioles, from one to two inches long.

Stipules, if any, minute, and caducous.

Flowers numerous, round the base of the young shoots, and from the axils of the lower leaves, peduncled, large, pale-yellow, drooping.

Calyx, four, five, or six leaved (five is by far the most common number); ovate, obtuse, covered externally with ferruginous pubescence, permanent.

Corol; tube subcylindric, length of the calyx; border of eight, spreading, oblong, obtuse divisions, longer than the tube.

Stamens; filaments from thirty to forty, about as long as the tube of the Corol, and inserted on its mouth. Anthers linear-oblong.

Pistil, germ conical, (ten or twelve celled, one seeded,) downy, surrounded with a downy nectarial ring. Style longer than the stamens; stigma acute.

Berry oblong, generally pointed by a remaining portion of the style; smooth, fleshy, containing one, two, or three, rarely more, large seeds; the rest not ripened.

Seeds oblong, rather round than flat, but differ-

ing in shape according to the number contained in each fruit; smooth, shining, light brown, with a long, lanceolate, lighter coloured, less smooth, umbilical mark on the inside.

This tree, which is rendered interesting on account of its seeds yielding a firm butyraceous substance, resembles *Bassia Latifolia*, (see *Coromandel* Plants, Volume I, No. 19, also *Asiatic* Researches, Volume I, Page 300,) so much as scarce to be distinguished from it, except by the Corol and Stamina.

Here (in *Bassia butyracea)* the Corol is of a thin texture, with a tube nearly cylindric, and border of eight, large, spreading, oblong segments. There (in *Bassia latifolia)* it is thick and fleshy, with a gibbous, indeed almost globular tube; and border of generally more than eight, small, cordate, rather incurved segments.

Here, the Stamina, from thirty to forty in number, have long filaments inserted *on* the mouth of the tube of the Corol. There they are fewer in number; have very short filaments, and are arranged in two, or three series, completely *within* the tube, to which they are affixed.

It may not be improper to notice here some other species of the same genus. The following Botanical description of *Bassia longifolia*. Linn. *Mant.* page 563, I have been favoured with by Doctor Klein, of *Tranquebar*, and the account of its economical uses by the Reverend Doctor John, of the same place.

Description *by* Doctor Klein.

Calyx, Perianth: monophyllum, 4-partitum; laciniis ovatis, acutis, coriaceis, extus tomento ferrugineo obductis, persistentibus.

Corolla monophylla, campanulata; tubo cylindraceo, inflato, carnoso, limbo 8-partito; laciniis lanceolatis, erectis.

Stamina, filamenta 16, brevissima, in duos ordines divisa, quorum octo ad incisuras laciniarum, octo in tubo corollæ inserta. Antheræ lineares, setaceæ, acutæ, extus pilosæ, limbo breviores.

Pistil: Germen superum, ovatum. Stylus setaceus, corolla duplo longior. Stigma simplex.

Pericarp: drupa oblonga, 1-3 sperma, carnosa, lactescens. Seminibus subtrigonis oblongis.

Arbor magna; ramis sparsis, erectis, horizontalibusque.

Folia sparsa, petiolata, lanceolata, acuta, integerrima, glabra, venosa.

Flores longe-pedunculati, axillares, solitarii, et aggregati.

ECONOMICAL USES *of the* OIL, *or* ILLEEPEI TREE,

Bassia longifolia.

BY THE REVEREND DOCTOR JOHN.

1st. The oil, pressed from the ripe fruit, is used as a common lamp oil, by those who cannot afford to buy the oil of the coco-nut. It is thicker, burns longer, but dimmer, smoaks a little, and gives some disagreeable smell.

2d. It is a principal ingredient in making the country soap, and, therefore, often bears the same price with the oil of the coco-nut.

3d. It is, to the common people, a substitute for ghee, and coco-nut oil, in their curries and other dishes. They make cakes of it, and many of the poor get their livelihood by selling these sweet oil cakes.

4th. It is used to heal different eruptions, such as the itch, &c.

5th. The cake (or *Sakey)* is used for washing the head; and is carried, as a petty article of trade, to those countries, where these trees are not found.

6th. The flowers, which fall in *May*, are gathered by the common people, dried in the sun, roasted, and eaten, as good food. They are also bruised, and boiled to a jelly, and made into small

balls, which they sell or exchange, for fish, rice, and various sorts of small grain.

7th. The ripe fruit, as well as the unripe, is eaten by the poor, as other fruits. Of the unripe, the skin is taken off, and after throwing away the unripe kernel, boiled to a jelly, and eaten with salt and *Capsicum*.

8th. The leaves are boiled with water, and given as a medicine, in several diseases, both to men, and to cattle.

9th. The milk of the green fruit, and of the tender bark, is also administered as a medicine.

10th. The bark is used as a remedy for the itch.

11th. The wood is as hard, and durable, as teak wood, but not so easily wrought, nor is it procurable of such a length for beams, and planks, as the former; except in clay ground, where the tree grows to a considerable height; but, in such a soil, it produces fewer branches, and is less fruitful, than in a sandy, or mixed soil, which is the best suited for it. In a sandy soil, the branches shoot out nearer to the ground, and to a greater circumference, and yield more fruit. These trees require but little attention; beyond watering them during the first two or three years, in the dry season. Being of so great use, we have here whole groves of them, on high, and sandy grounds, where no other fruit trees will grow.

12th. We may add, that the owls, squirrels, lizards, dogs and jackals, take a share of the

flowers; but the vulgar belief is, that the latter, especially in the time of blossom, are apt to grow mad, by too much feeding on them.

Bassia obovata, Forster's *Prod.* No. 200: a native of the Isle of *Tanna*, in the South Sea. Of this species, I possess no other account than the definition, which corresponds with the habit of the genus. If Forster has left us no account of the uses of the tree, it may be worth while to make inquiry, when an opportunity offers.

Park's *Shea*, or butter tree of *Africa*, we have reason, from his description, and figure, as well as from analogy, to suppose a species of this same genus. At page 352 (of his travels in the interior of *Africa*) he says, "The appearance of the fruit evidently places the *Shea* tree in the natural order of *Sapotæ*, (to which *Bassia* belongs,) and it has some resemblance to the *Madhuca* tree (*Bassia latifolia*), described by Lieutenant Charles Hamilton, in the *Asiatic* Researches, Volume I, page 300.

"The people were every where employed in collecting the fruit of the *Shea* trees, from which they prepare a vegetable butter, mentioned in the former part of this work*. These trees grow in great abundance all over this part of *Bambarra*.

---

* This commodity, *Shea toulou*, which, literally translated, signifies *Tree-butter*, is extracted, by means of boiling water, from the kernel of the nut, has the consistence and appearance of butter; and is in truth an admirable substitute for it. It forms an important article in the food of the natives, and serves also for every domestic purpose in which oil would otherwise be used. The demand for it is therefore great. Park's Travels in *Africa*. Page 26.

They are not planted by the natives, but are found growing naturally in the woods; and in clearing woodland for cultivation, every tree is cut down but the *Shea.* The tree itself, very much resembles the *American* oak, and the fruit, from the kernel of which, first dried in the sun, the butter is prepared, by boiling the kernel in water, has somewhat the appearance of a *Spanish* olive. The kernel is enveloped in a sweet pulp, under a thin green rind; and the butter produced from it, besides the advantage of its keeping the whole year without salt, is whiter, firmer, and to my palate, of a richer flavour, than the best butter I ever tasted made of cows milk. The growth and preparation of this commodity, seem to be amongst the first objects of *African* industry, in this and the neighbouring states; and it constitutes a main article of their inland commerce." PARK's Travels in *Africa*, page 202-3.

In the following account of the *Bassia Butyracea*, by Mr. GOTT, we find the people of *Almorah* eat the dregs, left after the finer parts have been extracted; consequently there can be little doubt of the wholesomeness of the pure *vegetable butter* itself. The thick oil of *Bassia latifolia*, and *longifolia*, the natives of various parts of *India*, either use alone, or mixed with ghee (clarified butter), in their diet.

On Captain HARDWICKE's departure for *England*, in the beginning of 1803, he gave me a small quantity of the above-mentioned substance, observing, that the only account he could give me of it was, that it was reported to him to be a vegetable product from *Almorah*, or its neighbourhood, where it is called *Fulwah*, or *Phulwarah*. In consequence of this information, I applied to

Mr. GOTT, (who is stationed in the vicinity of that country,) to make the necessary inquiries; and from him I procured an abundance of well preserved specimens, at various times, in leaf, flower, and fruit. From these, and that gentleman's account of the tree, and its product, the foregoing description, and the annexed figures, were taken.

The same sample, which I got from Captain HARDWICKE, in *January* 1803, I have still by me. It remains perfectly sweet, both in taste and smell. Its flavour is that of cloves; having, I presume, been perfumed with that spice, previously to its falling into his hands, a practice mentioned in the following narrative. At this instant the thermometer is at ninety-five, and for these six weeks, it has rarely been below ninety, and has often risen to one hundred, or more, yet it continues about as firm as butter is in *England* during winter.

Mr. GOTT's account of the tree, and its product, is as follows:—

The tree producing a fat-like substance, known in this country by the name of *Phulwah*, is a native of the *Almorah* hills, and known there by the same name. The tree is scarce, grows on a strong soil, on the declivities of the southern aspects of the hills below *Almorah*, generally attaining the height, when full grown, of fifty feet, with a circumference of six. The bark, of such specimens as I have been able to obtain, is inclined to smoothness, and speckled; it flowers in *January*, and the seed is perfect about *August*, at which time the natives collect them, for the purpose of extracting the above substance. On opening

the shell of the seed or nut, which is of a fine chesnut colour, smooth, and brittle; the kernel appears of the size and shape of a blanched almond: the kernels are bruised, on a smooth stone, to the consistency of cream, or of a fine pulpy matter; which is then put into a cloth bag, with a moderate weight laid on, and left to stand, till the oil, or *fat*, is expressed, which becomes immediately of the consistency of hog's-lard, and is of a delicate white colour. Its uses are in medicine; being highly esteemed in rheumatism, and contractions of the limbs. It is also much esteemed, and used by natives of rank, as an unction, for which purpose, it is generally mixed with an *Utr* of some kind. Except the fruit, which is not much esteemed, no other part of the tree is used.

This tree is supposed to bear a strong affinity, to the *Mawa*, (*Madhuca*, or *Bassia latifolia;*) but the oil or *fat*, extracted from the seeds, differs very materially. The oil from the *Mawa*, is of a greenish-yellow colour, and seldom congeals. That from the *Phulwah* congeals, immediately after expression, is perfectly colourless; and, in the hottest weather, if melted by art, will, on being left to cool, resume its former consistency. The oil from the seed of the *Mawa*, if rubbed on woollen cloth, leaves as strong a stain as other oils or animal fat. The fatty substance from the *Phulwah*, if pure, being rubbed on woollen cloth, will leave no trace behind.

The oil of *Mawa* is expressed in considerable quantities, about *Cawnpoor*, and *Furruckabad*, and being mixed with, is sold as ghee.

This fatty substance very rarely comes pure from

the hills, and receives more and more adulteration, (by adding the purest ghee,) as it passes down to the lower provinces: age gives it the firmness of pure tallow.

ADDITIONAL REMARKS BY THE SAME, IN CONSEQUENCE OF A FEW QUERIES TRANSMITTED TO MR. GOTT.

It is supposed there might be annually procured from twenty to thirty maunds, at the price of fourteen or fifteen rupees the maund.

1st. It is never taken inwardly as a medicine, nor is it used in diet; further than that the dregs, after the purer fatty substance is expressed, are eaten, as a substitute for ghee, by the peasants, or labourers, who extract the fat.

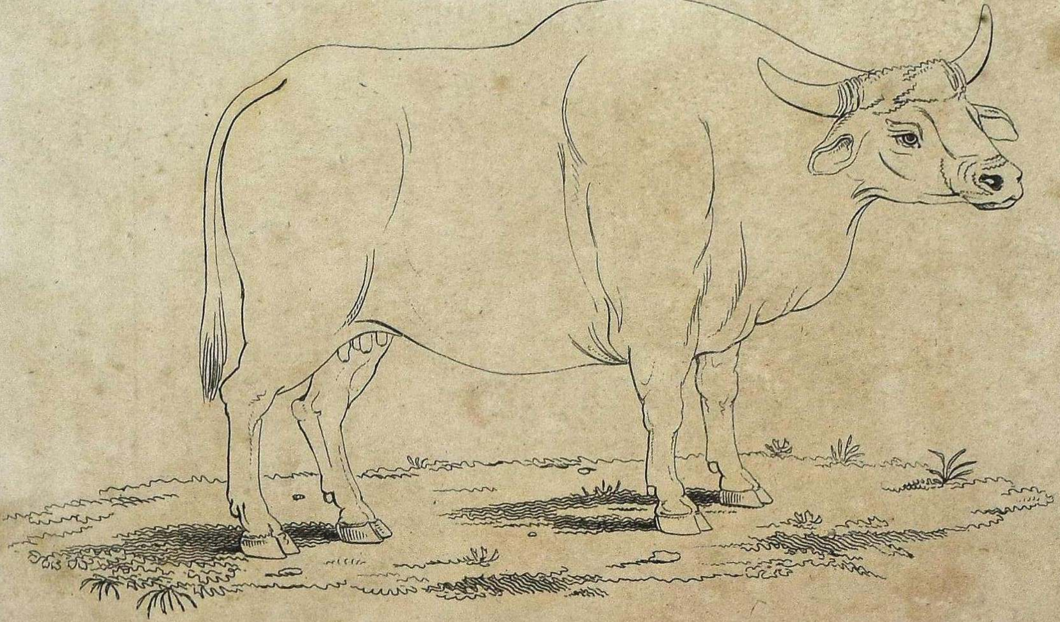
2d. I have some pure, which has been by me ten months, and it has neither acquired colour, nor bad smell.

3d. After it is imported into *Rohilkhund*, it is scented with *Utr*, (an essential oil,) and a little of the flour of the *Indian* corn *(Zea Mays)* is added, to increase its consistency. N. B. This flour is added on account of its peculiar whiteness.

4th. If it is clean, and free from dirt, it never undergoes any purification; if the contrary, it is heated, and filtered through a coarse cloth.

5th. The flowers are never used. The pulp of the fruit is eaten by some; it is of a sweet, and flat taste.

The timber is white, soft, and porous; and is never made any use of by the natives. It is nearly as light as the *Semul*, or cotton tree (*Bombax heptaphyllum*).



CAYÁL.

X.

Description *of a Species of* Ox, *named* Gaya'l.

COMMUNICATED BY H. T. COLEBROOKE, ESQ.

THE *Gayál* was mentioned in an early volume of the researches of the *Asiatic* Society *, by its *Indian* name, which was explained by the phrase, 'cattle of the mountains.' It had been obscurely noticed (if indeed the same species of ox be meant,) by Knox, in his historical relation of *Ceylon* †; and it has been imperfectly described by Captain Turner, in his journey through *Bootan* ‡. Herds of this species of cattle have been long possessed by many gentlemen, in the eastern districts of *Bengal*, and also in other parts of this province: but no detailed account of the animal, and of its habits, has been yet published in *India*. To remedy this deficiency, Dr. Roxburgh undertook, at my solicitation, to describe the *Gayál*, from those seen by him in a herd belonging to the Governor General. Dr. Buchanan has also obligingly communicated his observations on the same cattle: and both descriptions are here laid before the society; with information obtained from several gentlemen at *Tipura*, *Silhet*, and *Chatgaon*, relative to the habits of the animal. The original drawing, from which the plate has been taken, is

---

* In the second volume, (p. 188,) published in 1790.
† P. 21.
‡ Embassy to *Tibet*, p. 160.

in the collection of Sir JOHN ANSTRUTHER, for whom it was drawn by a native artist in his service.

From the information which was first received, it was supposed that the *Gayál* would not engender either with the buffalo, or with the common bull and cow, and must therefore constitute a distinct species in every system of classification. Although that be not confirmed, by the correcter information now obtained, yet on account of the considerable, and apparently permanent, difference between the common cow and the *Gayál*, this ought still, perhaps, to be considered as a distinct species, rather than as a variety. Its generic, and trivial names, with the synonyma, may be stated as follows.

Bos Gavæus.

SYNONYMA: Sansc. *Gavaya;* Hind. *Gavaï*, or *Gayál;* Beng. *Gobaygoru;* Pers. *Gaujangalí;* mountaineers (*Cúcís*, &c.) east of Silhet, *Mét'hana;* mountaineers (*Cúcís*) east of Chatgaon, *Shiál;* Mugs, *J'hongnua.* Burmas, *Núnec.* Ceylon, *Gauvera**.

Bos Bubalus Gauvera: PENNANT †.

'The *Gayál*,' says Dr. ROXBURGH, 'is nearly of the size and shape of the *English* bull. It has short horns, which are distant at their bases, and

---

* KNOX's historical relation of *Ceylon*, p. 21.
† History of Quadrupeds, I. p. 27.

rise in a gentle curve directly out and up: a transverse section, near the base, is ovate; the thick end of the section being on the inside. The front is broad, and crowned with a tuft of lighter coloured, long, curved hair. The dewlap is deep and pendent. It has no mane, nor hump; but a considerable elevation over the withers. The tail is short; the body covered with a tolerable coat of straight, dark-brown hair: on the belly, it is lighter coloured; and the legs and face are sometimes white.'

Doctor Buchanan thus describes it:

'The *Gayál* generally carries its head with the mouth projecting forward like that of a buffalo. The head, at the upper part, is very broad and flat, and is contracted suddenly towards the nose, which is naked, like that of the common cow. From the upper angles of the forehead proceed two thick, short, horizontal processes of bone, which are covered with hair. On these are placed the horns, which are smooth, shorter than the head, and lie nearly in the plane of the forehead. They diverge outward, and turn up with a gentle curve. At the base they are very thick, and are slightly compressed, the flat sides being toward the front and the tail. The edge next the ear is rather the thinnest, so that a transverse section would be somewhat ovate. Toward their tips, the horns are rounded, and end in a sharp point. The eyes resemble those of the common ox; the ears are much longer, broader, and blunter than those of that animal.

'The neck is very slender near the head, at some distance from which a dewlap commences; but this is not so deep, nor so much undulated,

as in the *Bos Zebu*, or *Indian* ox. The dewlap is covered with strong longish hair, so as to form a kind of mane on the lower part of the neck; but this is not very conspicuous, especially when the animal is young.

'In place of the hump, which is situated between the shoulders of the *Zebu*, the *Gayál* has a sharp ridge, which commences on the hinder part of the neck, slopes gradually up till it comes over the shoulder joint, then runs horizontally almost a third part of the length of the back, where it terminates with a very sudden slope. The height of this ridge makes the neck appear much depressed, and also adds greatly to the clumsiness of the chest, which, although narrow, is very deep. The sternum is covered by a continuation of the dewlap. The belly is protuberant, but in its hinder part is greatly contracted. The rump, or *os sacrum*, has a more considerable declivity than that of the *European* ox, but less than that of the *Zebu*.

'The tail is covered with short hair, except near the end, where it has a tuft like that of the common ox; but, in the *Gayál*, the tail descends no lower than the extremity of the *tibia*.

'The legs, especially the fore ones, are thick and clumsy. The false hoofs are much larger than those of the *Zebu*. The hinder parts are weaker in proportion than the forehand; and, owing to the contraction of the belly, the hinder legs, although in fact the shortest, appear to be the longest.

'The whole body is covered with a thick coat of short hair, which is lengthened out into a

mane on the dewlap, and into a pencil-like tuft on the end of the tail. From the summit of the head there diverges, with a whirl, a bunch of rather long coarse hair, which lies flat, is usually lighter coloured than that which is adjacent, and extends towards the horns, and over the forehead. The general colour of the animal is brown, in various shades, which very often approaches to black, but sometimes is rather light. Some parts, especially about the legs and belly, are usually white; but in different individuals, these are very differently disposed.

'In the first column of the following table is the measurement of a full grown cow: in the second is that of a young male.

	Ft.	*In.*	*Ft.*	*In.*
From the nose to the summit of the head, ...	1	6	1	8
Distance between the roots of the horns, ...	0	10	0	9
From the horns to the shoulder, . .	3	3	3	0
From the shoulder to the insertion of the tail, ...	4	3	3	10
Height at the shoulder, ...	4	9	4	7
Height at the loins, ...	4	4	4	2
Depth of the chest, ...	2	9	-	-
Circumference of the chest, . . .	6	7	5	7
Circumference at the loins, . . .	5	10	5	6
Length of the horns, ...	1	2	-	-
Length of the ears, ...	0	10	-	-

'The different species of the ox kind may be readily distinguished from the *Gayál* by the following marks. The *European* and *Indian* oxen by the length of their tails, which reach to the false hoofs; the *American* ox by the gibbosity on

its back; the *Boves moschatus*, *Cafer*, and *pumilus*, by having their horns approximated at the bases; the *Bos grunniens* by its whole tail being covered with long silky hairs; the *Bos Bubalus*, at least the *Indian* buffalo, by having the whole length of its horns compressed, and by their being longer than the head, and wrinkled; also by its thin coat of hair, by its want of a dewlap, and, above all, by its manners; the *Bos barbatus* by the long beard on its chin.

'The cry of the *Gayál* has no resemblance to the grunt of the *Indian* ox, but a good deal resembles that of the buffalo. It is a kind of lowing, but shriller, and not near so loud as that of the *European* ox. To this, however, the *Gayál* approaches much nearer than it does to the buffalo.'

The result of inquiries made by Mr. Macrae, at *Chatgaon*, has been communicated by that gentleman, in the following answer to questions which were transmitted to him.

'The *Gayál* is found wild in the range of mountains that form the eastern boundary of the provinces of *Aracan*, *Chittagong* (*Chatgaon*), *Tipura*, and *Silhet*.

'The *Cúcis*, or *Lunctas*, a race of people inhabiting the hills immediately to the eastward of *Chatgaon*, have herds of the *Gayál* in a domesticated state. By them he is called *Shiál*; from which, most probably, his name of *Gayál* is derived; as he is never seen on the plains, except when brought there. By the *Mugs* he is named *J'hongnuah*; and by the *Burmas*, *Núnec*. In the *Hindu s'ástra* he is called *Gabay*. It appears,

however, that he is an animal very little known beyond the limits of his native mountains, except to the inhabitants of the provinces above-mentioned.

'The *Gayál* is of a dull heavy appearance; but, at the same time, of a form which indicates much strength and activity, like that of the wild buffalo. His colour is invariably brown; but of different shades, from a light to a dark tinge; and he frequently has a white forehead, and four white legs, with the tip of the tail also white. He has a full eye, and, as he advances in age, often becomes blind; but it is uncertain whether from disease, or from a natural decay. His disposition is gentle; even when wild, in his native hills, he is not considered to be a dangerous animal, never standing the approach of man, much less bearing his attack. The *Cúcís* hunt the wild ones for the sake of their flesh.

'The *Gayál* delights to range about in the thickest forest, where he browses, evening and morning, on the tender shoots and leaves of different shrubs; seldom feeding on grass, when he can get these. To avoid the noonday heat, he retires to the deepest shade of the forest; preferring the dry acclivity of the hill, to repose on, rather than the low swampy ground below; and never, like the buffalo, wallowing in mud.

'*Gayáls* have been domesticated among the *Cúcís* from time immemorial; and without any variation, in their appearance, from the wild stock. No difference whatever is observed in the colour of the wild and tame breeds: brown of different shades being the general colour of both. The

wild *Gayál* is about the size of the wild buffalo of *India*. The tame *Gayál*, among the *Cúcis*, being bred in nearly the same habits of freedom, and on the same food, without ever undergoing any labour, grows to the same size with the wild one.

'He lives to the age of fifteen, or twenty, years: and, when three years old, the *Gayál* cow receives the bull; goes eleven months with young; and will not again admit his embrace until the following season after she has brought forth.

'The *Gayál* cow gives very little milk, and does not yield it long; but, what she gives is of a remarkably rich quality; almost equally so with the cream of other milk, and which it also resembles in colour. The *Cúcis* make no use whatever of the milk, but rear the *Gayáls* entirely for the sake of their flesh and skins. They make their shields of the hides of this animal. The flesh of the *Gayál* is in the highest estimation among the *Cúcis*; so much so, that no solemn festival is ever celebrated without slaughtering one or more *Gayáls*, according to the importance of the occasion.

'The *Cúcis* train their *Gayáls* to no labour; although, from the great strength and gentle disposition of the animal, he must be very competent to every purpose, either of draught, or carriage, to which the buffalo, or the ox, is applicable.

'The domesticated *Gayáls* are allowed by the *Cúcis* to roam at large, during the day, through the forest, in the neighbourhood of the village:

but, as evening approaches, they all return home, of their own accord; the young *Gayál* being early taught this habit, by being regularly fed every night with salt, of which he is very fond: and, from the occasional continuance of this practice, as he grows up, the attachment of the *Gayál* to his native village, becomes so strong, that, when the *Cúcis* migrate from it, they are obliged to set fire to the huts which they are about to leave, lest their *Gayáls* should return thither from their new place of residence, before they become equally attached to it, as to the former, through the same means.

'The wild *Gayál* sometimes steals out from the forest in the night, and feeds in the rice fields bordering on the hills. The *Cúcis* give no grain to their cattle. With us, the tame *Gayáls* feed on *Caláï (phaseolus max)*; but, as our hills abound with shrubs, it has not been remarked, what particular kind of grass they prefer.

'The *Hindus*, in this province, will not kill the *Gabay*, which they hold in equal veneration with the cow. But the *As'l Gayál*, or *Seloï*, they hunt, and kill, as they do the wild buffalo. The animal, here alluded to, is another species of *Gayál* found wild in the hills of *Chatgaon*; a correct description of which will be given hereafter. He has never been domesticated; and is, in appearance and disposition, very different from the common *Gayál*, which has been just described. The natives call him the *As'l Gayál* in contradistinction to the *Gabay*. The *Cúcis* distinguish him by the name of *Seloí*, and the *Mugs* and *Burmas* by that of *P'hanj*; and they consider him, next to the tiger, the most dangerous and the fiercest animal of their forests.'

'The *Gayál* (Mr. Eliot writes from *Tipura,)* is little known to the natives here; it is principally considered as an inhabitant of the *Chatgaon* hills. In conversation with people belonging to the *Raja* of *Tipura*, on the subject of this animal, I have understood, that it is known in the recesses of the more eastern part of the *Tipura* hills, but has never been caught. In the past year, some of these animals were seen in a herd of elephants, and continued some time with the herd: but they were alarmed by the noise used in driving the elephants, and escaped being secured in the fenced enclosure. The *K'héda* of that season was nearly five hours journey from the skirts of the hills.

'The animal is found wild, but is easily domesticated, though, in this state, he essentially partakes of wild habits. I have some *Gayáls* at *Munnamutty*; and, from their mode of feeding, I presume, that they keep on the skirts of the vallies, to enable them to feed on the sides of the mountain, where they can browse. They will not touch grass, if they can find shrubs.

'While kept at *Camerlah*, which is situated in a level country, they used to resort to the tanks, and eat on the sides; frequently betaking themselves to the water, to avoid the heat of the sun. However, they became sickly, and emaciated; and their eyes suffered much. But, on being sent to the hills, they soon recovered, and are now in a healthy condition. They seem fond of the shade; and are observed in the hot weather to take the turn of the hills, so as to be always sheltered from the sun. They do not wallow in mud like buffaloes; but delight in water, and stand in it, during the greatest heat

of the day, with the front of their heads above the surface.

'Each cow yields from two and a half, to about four *sérs*, of milk *, which is rich, sweet, and almost as thick as cream; it is of a high flavour, and makes excellent butter.'

Information, decisive of the question, whether the *Gayál* engender with the common *Indian* bull, has been received from Mr. Bird, at *Dacca;* who 'having brought a domesticated female *Gayál* from '*Chittagong* to that place, and not being able to 'procure a male *Gayál* at *Dacca*, directed a common 'bull † to be presented to her, which the female 'received, upon being blinded by a cloth thrown 'over her eyes: the issue was a cow resembling 'mostly the *Gayál* mother; and from that cow, 'impregnated by a bull of the same common breed, 'another cow was produced, which also had grown 'up and was in calf by a common bull, at the 'date of Mr. Bird's letter.'

Mr. Dick communicated the following answer from *Silhet.*

'Not being able to procure, here, any satisfactory information respecting the *Gayál*, I transmitted questions to my *Vakíl* at *Cách'hár* (having understood, that those animals had been sent hither, from that place,) and desired him to obtain the most correct information on the subject.

---

* From five to eight pounds.

† Of the breed named *Déswáli*. It is a *Zebu* of the common kind, found in the middle districts of *Bengal*.

'With regard to the *Hindus* scrupling to kill a *Gayál*, I could not obtain a direct answer: as the word "*Gó*" is affixed to one of the names, from which they infer that it partakes of the cow, and are afraid positively to declare, that it is not improper to kill the animal; quoting a passage from the *Sástra*, "*Gósadrĭs'ah Gavayah*," 'a *Gavaya* is like an ox.' However, the *Rájá* of *Các'h'hár*, who is a *Cshatriya* of the *Súryabansí* race, occasionally sends several *Gayáls* to be sacrificed on certain hills in his country, in order to conciliate the *Dévatá* of the place; as his *Vakíl* informs me.'

The answers received from the *Vakíl* at *Cáchhár*, to the questions forwarded by Mr. DICK, contain the following information.

'The *Gayál* is called *Gaujangalí* in the *Persian* language, *Gavaya* in *Sanscrĭt*, and *Mét'haná* by the mountaineers: but others name the animal *Gobay-goru*.

'*Gayáls* are not confined to the woods: they are domesticated. But wild *Gayáls* are found in the mountains of *Bhótant*, &c. They are kept, in a tame state, by the people who inhabit the *Cálánágá* hills, near the district of *Ch'hilhet* (*Silhet*), on the eastern border of the province of *Các'h'har*, west of *Manipúr*, and north of a tract dependant on *Tripura*, *Cálánágás*, *Cúcis*, and *Khás'ís* (tribes of mountaineers), keep *Gayáls* for the sake of the flesh, not for the milk, which they do not use; nor for burden, since they have no such employment for their cattle.

'The *Gayāl* lives to the age of twenty, or twenty-five, years: it has reached its full growth at

five years; and the female is generally higher than the male. She receives the bull in her fifth year, and bears after ten months. If milked, she yields from two, to two and a half, *sérs* of milk *, or sometimes more.

'The tame *Gayáls*, however long they may have been domesticated, do not at all differ from the wild; unless in temper: for the wild are fierce and untractable. The colour of both is the same; namely, that of the antelope; but some are white, and others black: none are spotted, nor piebald. They graze and range like other cattle; and eat rice, mustard, chiches, and any cultivated produce; as also chaff and chopped straw.

"The *Gavaya* is like a cow;" consequently, not the same with a cow; a *Hindu*, therefore, commits no offence by killing one. But natives of *Bengal*, or of the mountains, who are *Hindus*, scruple to kill a *Gayál* themselves, because it is named *Gobay-goru* (or the *Gávaya* cow).'

To this answer, an addition was made by the *Raja's Vakíl*, at *Silhet*.

'*Mét'hanás* are sacrificed, especially by *Nágás* and *Cúcís*, before the mountain gods, *Nákharam* and *Máïram*. The *Cúcís* and *Nágás* are fond of the meat; and, therefore, constantly keep such cattle, and eat their flesh; and often make presents of them to the *Rájá* of *Các'hár*. The *Rájá* preserves them, and sometimes offers *Mét'hanás* in sacrifices to deities; or entertains, with their flesh, *Nágás* and *Cúcís*, who come to visit him. The

---

* From four to five pounds.

mountaineers are much pleased with that compliment, and eat the meat with delight.'

This information has established (what I had previously conjectured), that the animal mentioned by many *Sanscrĭt* authors, under the name of *Gavaya*, is no other than the *Gayál*. AMERA SINHA, in a chapter of his dictionary relating to animals, mentions the *Gavaya* with many wild animals; among which are the black antelope, the spotted axis, the porcine deer, the painted or white-footed antelope, the grunting ox, and the musk deer. One of his commentators (RA'YAMUCUTA) says of the *Gavaya*, that, in shape, it resembles the ox. He had previously compared the form of the grunting ox *(Bos grunniens,)* to that of a buffalo. Another annotator states *Gavaya*, as a name received into the common dialects. Both agree in deriving the word from *Gó*, a bull or cow, and *aya* knowledge; because, as they remark, 'one might take it for an ox.'

The *Rája-nighanti*, an excellent catalogue of natural productions, with their reputed qualities in the Materia Medica, states *Gavaya* as synonymous with *Vana-gó*, or wild ox: also called in *Sanscrĭt*, *Balabhadra* and *Máhágava*: and, in the vulgar dialect, *Gavaï*. Another vocabulary has added *Gavánúca* to the *Sanscrĭt* synonyma; and, according to the *Rája-nighanti*, the female is likewise named *Bhillagaví*, or cow of the *Bhillas*, (a tribe of pillagers and mountaineers).

No further evidence would seem necessary, had not the *Bhavapracása*, a celebrated medical work, confounded the *Gavaya* with the *Rĭs'ya*, or *Rĭshya*, (in *Hindí*, *Rójh*), which is the painted or white-footed antelope, called *Nílgau*. MADA-

NAPA'LA, in a similar catalogue of animals considered relatively to their medical uses*, has fallen into the same error; and so, probably, other writers may have done, who inhabit countries where the *Gayál* is little known.

To correct this mistake, (without relying on the separate mention of the two animals in the *Ameracósha,)* I shall cite no less an authority, than the *Indian* scripture. The twenty-fourth chapter of the *Vájasanéyì Yajurvéda*, enumerates the animals, which should be consecrated to various deities, at an *As'wamédha*. It is there directed (v. 27), that three *Rìsyas*, (white-footed Antelopes,) shall be consecrated to the deities named VASUS; and, towards the close of the next verse (v. 28), it is required, that three buffaloes shall be presented to VARUN'A, as many *Gavayas* to VRIHASPATI, and the same number of camels to TWASHT'RI. The commentator on the *Véda*, (MAHI'D'HARA,) explains *Gavaya*, as signifying, 'wild cattle resembling kine.' It is evident, that this suits better with the *Gayál*, than with any other animal known in *India*.

From the authorities above quoted, the *Sanscrit* synonyma may be safely concluded. But it is not so easy to determine a *Persian* name of this species of ox. *Gaujangalí*, or cow of the forest, mentioned by Mr. DICK's *Vakíl* at *Cách'hár*, is a suitable designation; but it does not occur, so far as I can learn, in any *Persian* work of authority. It may be necessary to caution the reader, not to suppose the *Persian Gáucóhí* (which literally signifies, as Mr. GLADWIN translated it†,

---

* In the *Madana-vinóde-nighanti.*

† *Alfáz Adviyeh*, 347.

mountain cow), to be this, or any other species of the ox. The *Tohfatu'lmumínin*, and *Makhzenu'l-adviyeh*, two celebrated treatises by *Persian* physicians, concur in describing the three varieties of *Gaucóhí*, also named *Gauzen*, or *Gózen*, and in *Arabic*, *Iyyal*, or *Uyyal*, as three sorts of deer: and the last mentioned work declares it to be the same with the *Hindì Bárehsing'há*, or *Cervus Elaphus*.

I take this opportunity, while treating of a species of ox, to notice an error which crept into KERR's unfinished translation of the animal kingdom in LINNÆUS's Systema Naturæ; and which has been followed by Doctor TURTON in translating the general system of nature by LINNÆUS. Mr. KERR described and figured, under the name of *Bos Arnee*, an animal, which, notwithstanding the exaggerated description, given on the authority of 'a *British* officer, who met with one in the woods, in the country above *Bengal* *,' is evidently nothing else but the wild buffalo, an animal very common throughout *Bengal*, and known there, and in the neighbouring provinces of *Hindostan*, by the name of *Arna*. Though neither fourteen feet high, as Mr. KERR has stated, or rather as the officer, on whose information he relied, had affirmed; nor even eight feet, as Doctor TURTON, following KERR's inference from a drawing, asserts; yet it is a large and very formidable animal, conspicuous for its strength, courage, and ferocity. It may not be true, that the buffaloes of *Asia* and *Europe* constitute a single species; but, certainly, the wild and tame buffaloes of *India* do

* KERR, page 336.

not appear to differ in any thing, except the superior size, and more uniform figure, of the wild animal. A better description of the buffalo, than has been yet given, is perhaps wanted; but the *Bos Arnee*, of Kerr and Turton, must be rejected from systems of *zoology*, as an erroneous description taken from a loose drawing, assisted by the fragment of a skeleton.

APPENDIX.

INTRODUCTORY REMARKS, *intended to have accompanied Captain* MAHONY'S *Paper on* Ceylon, *and the Doctrines of* BUDDHA, *published in the Seventh Volume of the* Asiatic Researches, *but inadvertently omitted in publishing that Volume.*

BY J. H. HARINGTON, ESQ.

I HAVE the pleasure of laying before the Society a paper on the island of *Ceylon*, and on the religious opinions of the greater part of its inhabitants, the worshippers of BOODH, or BUDDHA, whose religion and philosophy appeared to Sir W. JONES, "connected with some of the most curious "parts of *Asiatic* history *," and the period of his appearance an important epoch in *Hindoo* Chronology †.

This paper, which has been procured by the Honourable Mr. DUNCAN, from Captain MAHONY, an officer of the *Bombay* establishment, for some time resident on the Island of *Céylon*, has, with another paper already communicated to the Society by Captain MACKENZIE, anticipated and superseded some cursory remarks written by myself, during a short residence at *Columbo*, in the year 1797; and which I had hoped to render more worthy of perusal, on receiving a translation of the *Peerówáná Pótá*, an ancient book composed in the *Páli* language by 'ANUNDA' MA'HA' TIRU'NA'SHEE,

---

* *Asiatic Researches*, Volume I, page 354.

† Discourse on the *Hindus*, *Asiatic Researches*, Volume I.

which was given to me by a priest of BUDDHA, as containing a full account of his religion; and which I left to be translated at *Columbo*, by Monsieur DE HOAN, with the assistance of LEWIS DE SYLVA. But the *French* version made by them was unfortunately put on board the *Greenwich*, captured by a vessel from the Isle of *France;* and it has consequently never reached me. We shall not, however, have to regret this accident, if Captain MAHONY, who has given an extract from an historical work, the *Maha Raja Wallieh*, or as a copy of it shewn to me was called, the *Rájáwulee Puttur*, shall hereafter favour the society with the communication of the authentic materials for a history of the *Singalese*, their religion, manners, and customs, which I understand to be in his possession.

In the mean time I beg the Society's acceptance (for their Museum) of two small images of BOODH, which I procured at *Columbo;* and of two others brought from the *Burmah* dominions by Captain COX, late resident at *Rangoon;* the identity of which proves incontestibly that the object of worship on the *Eastern* peninsula, and the Island of *Ceylon*, is the same. I also beg to deposit in the Society's library the accompanying copy of the *Peeröwáná Pótá* above-mentioned, of which, at some future period, we may hope to procure another translation, if that carried to *Bourbon* or *Mauritius*, should not find its way to *Europe*, and the public.

I shall only add my testimony to that of Captain MAHONY, as to the period at which the *Singalese* compute the appearance of GOU'TAMA BUDDHA; whose death, or rather disappearance from the earth, they state to have been 2339 years be

fore 1797 A. C. or 542 years before the birth of CHRIST; and as their sacred era is reckoned from this epoch, it may be esteemed deserving of credit. It also corresponds, almost exactly, with the computation of the same era in *Siam*, as stated by Mr. MARSDEN, in his tract on the chronology of the *Hindus;* wherein, speaking of *Siam*, he observes, "the civil reckoning is by lunar years, consisting "ordinarily of twelve months each, with an inter- "calation of seven months in the period of nine- "teen years, and commencing with the new moon "that precedes the winter solstice. This era is "computed from the supposed time of the intro- "duction of their religion by SUMMONACODOM, "544 years before CHRIST; or in the year of the "*Julian* period 4169."

The real time at which BUDDHA, the son of SUDHÓDUN, (from whom he has the appellation *Soúdhó-dáni*, in the *Amara-cósha,)* propagated the heterodox doctrines ascribed to him by his followers, and for which they have been branded as atheists, and persecuted as heretics, by the *Bráhmens*, is, however, a desideratum which the learned knowledge, and indefatigable research, of Sir W. JONES have still left to be satisfactorily ascertained. His usual candour induced him to acknowledge his original error, in supposing this BUDDHA to have been the WODEN of the *Goths*, and genius of the planet Mercury*; and the passage from the *Bhágwatamrita*, quoted in his dissertation on the chronology of the *Hindus*, which states that BUDDHA, (the ninth *Avatár)*, "became visible the thousand and second year of the

* Dissertation on the chronology of the *Hindus*, *Asiatic Researches*, Volume II.

" *Cáli*-age being past," is, I find, open to another reading, which makes it the *second thousandth* year, or the year 2000, instead of 1002. At least it was so interpreted to me by RA'DHA'CA'NT, the very *Pundit* who is mentioned by Sir WILLIAM JONES, as having produced to him the book, from which the passage in question is quoted, and who is now one of the *Pundits* of the court of *Sudr Deewánee A'dálut*. His interpretation was also confirmed to me by SURVÓ TE'WAREE, the other *Pundit* of the court; but in justice to our revered Founder, whose regard to truth I have but imitated in this remark, I must add, that Mr. BLAQUIERE, whose knowledge of the *Sanscrit* language is too well known to need my testimony, concurs in the reading and version of Sir WILLIAM JONES.

Another point yet to be ascertained is, whether BUDDHA, the ninth *Avatár* of the *Hindus*, be the same with the heretic BUDDHA, now worshipped at *Ceylon*, and in the eastern peninsula; as well as in *China*, *Bootan*, and *Tibet*. Sir WILLIAM JONES, in his dissertation on the Gods of *Greece*, *Italy*, and *India* *, observes on BUDDHA, that "he seems "to have been a reformer of the doctrines con-"tained in the *Védas;* and though his good na-"ture led him to censure these ancient books, be-"cause they enjoined sacrifices of cattle, yet he is "admitted as the ninth *A'vatár*, even by the "*Brahmens* of *Cás'i*." Captain WILFORD, in his dissertation on *Egypt* and the *Nile* †, after mentioning the subversion of the religion and government of DE'VA'DA'SA, the sovereign of *Benares*, by

* *Asiatic Researches*, Volume I.
† *Asiatic Researches*, Volume III.

VISHNU, in the character of JINA, MA'HA'DE'VA in the form of ARHAN, or MAHIMA'N, and BRAHMA' in the figure of BUDDHA, remarks, "most of "the *Bráhmens* insist that the BUDDHA, who perverted DE'VA'DA'SA, was not the ninth incarnation of VISHNU, whose name, some say, should be written BOUDHA, or BÓDDHA; but not to "mention the *Amarcósh*, the *Mughdha-bodh*, and "the *Gíta-góvind*, in all of which, the ninth *A'vatár* is called BUDDHA, it is expressly declared in "the *Bhágavat*, that VISHNU should appear ninthly in the form of "BUDDHA," son of JINA, for "the purpose of confounding the *Daityas*, at a "place named *Cícata*, when the *Cáli*-age should "be completely begun."

In this quotation, the ninth *A'vatár* is called the son of JINA; (perhaps as a descendant from JINA, or as having adopted part of his doctrines;) but the present worshippers of BUDDHA state him to be the son of SUDHÓDUN, and those from whom ABOOLFUZUL took his account of BOODH in the *Ayeen Akbery*, gave him the same information; in which they are supported by the *Amara-cósha*, as already noticed. The followers of BOODH, at *Ceylon*, although their long intercourse with the *Hindus* (especially since they have been governed by a *Hindú* prince) has introduced some *Hindú* tenets and observances, in addition to what may have been originally derived from them, also positively deny that their BOODH is the *Hindú A'vatár*. The conclusion of Sir W. JONES*, that a second BUDDHA, assuming the name and character of the first, attempted to overset the system of the

* Dissertation on the chronology of the *Hindus*, *Asiatic Researches*, Volume II.

Bráhmens, and was the cause of their persecution of the *Boudhas*, corresponds with, and is supported by, the information given to Aboolfuzul, who says, "The *Bráhmens* call Boodh the ninth "*A'vatár*, but assert that the religion which is ascribed to him is false, and fabricated by some "other person *."

* See further his account of this religion, in the Third Volume of Gladwin's Translation of the *Ayeen Akbery*, page 157.

MEMBERS

OF THE

ASIATIC SOCIETY,

1805.

PATRONS.

HIS EXCELLENCY THE MOST NOBLE RICHARD MARQUIS WELLESLEY, K. P. GOVERNOR GENERAL, &c. &c. &c.

THE RIGHT HONOURABLE GENERAL GERARD LORD LAKE, COMMANDER IN CHIEF, &c. &c. SIR GEORGE HILARO BARLOW, BART. GEORGE UDNY, ESQ.	*Members of the Supreme Council.*

PRESIDENT, THE HONOURABLE SIR JOHN ANSTRUTHER, BART.
1st VICE PRESIDENT, J. H. HARINGTON, ESQ.
2d VICE PRESIDENT, H. T. COLEBROOKE, ESQ.

THE HONOURABLE SIR JOHN ROYDS, KNIGHT. J. DINWIDDIE, L. L. D. H. P. FORSTER, ESQ. S. DAVIS, ESQ. J. FARQUHAR, ESQ. R. HOME, ESQ. J. BENTLEY, ESQ. FRANCIS BUCHANAN, M. D.	*Committee of Papers, with the President, Vice Presidents, and Secretary.*

TREASURERS, MESSRS. TRAIL, PALMER, AND CO.

SECRETARY, W. HUNTER, ESQ.

James Alexander, Esq.
David Anderson, Esq.
Doctor James Anderson.
Lieutenant J. Anderson.
Richard Anster, Esq.

Captain John Baillie.
Lt. Col. Lamington Baillie.
Francis Balfour, M. D.
William Balmain, Esq.
James Barton, Esq.
John Bebb, Esq.
Reverend J. Bell.
John Belli, Esq.
Andrew Berry, M. D.
Robert Biddulph, Esq.
Richard Comyns Birch, Esq.
Robert Blake, Esq.
William Coats Blaquiere, Esq.
Captain James Blunt.
William Boag, Esq.
Charles Boddam, Esq.
R. H. Boddam, Esq.
Thomas Boileau, Esq.
Major Joseph Bowden.
George Boyd, Esq.
Thomas Brooke, Esq.
Ralph Broome, Esq.
Reverend D. Brown.
Honourable C. A. Bruce.
Reverend C. Buchanan.
Sir William Burroughs, Bart.
Captain W. Burton.

Alexander Campbell, M. D.
Mumford Campbell, Esq.
Lieutenant John Canning.
Sir Codrington E. Carrington, Knight.
Thomas Casement, Esq.
Charles Chapman, Esq.
E. Colebrooke, Esq.
Lieut. Col. R. H. Colebrooke.
Colonel John Collins.
H. Compton, Esq.
Chidley Coote, Esq.
William Cowper, Esq.
Burrish Crisp, Esq.
John Crisp, Esq.

Thomas Daniel, Esq.
George Davidson, Esq.
A. W. Devis, Esq.
John Dickens, Esq.
G. Dowdeswell, Esq.
Honourable Jonathan Duncan.

N. B. Edmonstone, Esq.
John Eliot, Esq.
Francis Ellis, Esq.
Walter Ewer, Esq.

Robert Farquhar, Esq.
W. Farquharson, Esq.
Leopold Fichtel, Esq.
John Fleming, Esq.
Nicholas Fontana, Esq.
Francis Fowke, Esq.
Captain William Francklin.
Lieut. Col. Charles Fraser.
Reverend N. S. Fuglsang.

Lieut. Col. John Garstin.
W. L. Gibbons, Esq.
John Gilchrist, Esq.
Francis Gladwin, Esq.
J. Goldingham, Esq.
Richard Goodlad, Esq.
R. T. Goodwin, Esq.
F. D. Gordon, Esq.
Lieut. Col. H. M. Gordon.
C. Gowan, Esq.
Thomas Graham, Esq.

Charles Grant, Esq.
James Grant, Esq.
W. Grant, Esq.
Major General C. Green.

Major Henry Haldane.
Alexander Hamilton, Esq.
Major Thomas Hardwicke.
James Hare, M. D.
James Hare, M. D. junior.
Herbert Harris, Esq.
Warren Hastings, Esq.
Francis Hawkins, Esq.
W. N. W. Hewitt, Esq.
Benjamin Heyne, M. D.
Henry Hodgson, Esq.
Lieut. Col. Hoghton.
D. Hopkins, Esq.
Francis Horsley, Esq.
James Howison, Esq.
Ozias Humphries, Esq.
John Hunter, Esq.

Richard Johnson, Esq.
James Irwin, Esq.

A. H. Kelso, Esq.
Sir John Kennaway, Bart.
Richard Kennaway, Esq.
Colonel W. Kirkpatrick.
Colonel Alexander Kyd.

Captain William Lambton.
Thomas Law, Esq.
Reverend Francis Lee, A.M.
Charles Lloyd, Esq.
Lieut. Col. Herbert Lloyd.
J. H. Lovett, Esq.

Captain Colin Macaulay.
Lieut. Alexander Macdonald.
Lieut. W. M'Dougal.
Major Gen. Hay M'Dowal
Major Colin Mackenzie.
Andrew Macklew, Esq.
Donald Macnabb, Esq.
Francis Macnaghten, Esq.
Colonel Allen Macpherson.
Sir John Macpherson, Bart.
Lieut. Col. John Malcolm.
Sir Charles Ware Malet, Bart.
William Marsden, Esq.
Bartholomew Marsh, Esq.
Grœme Mercer, Esq.
Nathaniel Middleton, Esq.
Edmund Morris, Esq.
Capt. James Mouat.
Sir John Murray, Bart.
Thomas Myers, Esq.

The Hon. Frederic North.

Core Ouseley, Esq.

Major General William Palmer.
George Parry, Esq.
John David Patterson, Esq.
Colonel William Paterson.
Captain Thomas Preston.

Thomas Raban, Esq.
Henry Ramus, Esq.
John Rawlins, Esq.
Lieut. Col. D. T. Richardson.
Colonel R. E. Roberts.
Captain G. Robertson.
Captain Thomas Robertson.
John Romer, Esq.
James Ross, Esq.
Charles Rothman, Esq.
Alexander Russell, Esq.
Sir Henry Russell, Knight.

Robert Saunders, Esq.
Helenus Scott, Esq.
Lieut. Col. Richard Scott.
Thomas Scott, Esq.
Daniel Seton, Esq.
J. W. Sherer, Esq.
John Shoolbred, Esq.
R. P. Smith, Esq.
Peter Speke, Esq.
Captain Charles Stewart.
Sir Thomas Strange, Knight.
James Stuart, Esq.
Captain B. Sydenham.
Lieut. Col. M. Symes.

John Taylor, Esq.
Right Hon. Lord Teignmouth.
Reverend William Tennant.
George Thompson, Esq.
Isaac Titsing, Esq.
Henry Trail, Esq.
H. St. G. Tucker, Esq.

Lord Viscount Valentia.

Lieutenant John Warren.
Captain Francis Wilford.
Charles Wilkins, Esq.
John Lloyd Williams, Esq.
Major H. Worsley.

John Zoffany, Esq.

HONORARY MEMBERS.

M. Charpentier de Cossigny.
Reverend D. John.
Reverend Thomas Maurice.
M. Volney.
Sir William Ouseley, Bart.
Major L. Dundas Campbell.

END OF THE EIGHTH VOLUME.

W. Wilson, Printer, St. John's Square.

DIRECTIONS TO THE BINDER,

For placing the Tables and Plates.

	PAGE
Tables I, II, and III, to front	34
Figures of JAGANATH, &c.	62
Plate of *Egyptian* Hieroglyphics	74
——— DURGA's combat with MAHISH-ASURA	76
Map of the Trigonometrical Survey	194
Table of *Hindu* Historical Periods	244
Plates illustrative of *Hindu* Geography, Nos. 1—6	376
Figure of *Bassia Butyracea*	400
——— *Gayál*	511